

Received 9/1/92
Reviewed 9/30/92
Recommended Marka

148430



PRELIMINARY ASSESSMENT

SELECTO-FLASH CORPORATION

WEST ORANGE, ESSEX COUNTY

EPA ID.: NJD002148799



New Jersey Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
Bureau of Site Assessment

SELECTO-FLASH INCORPORATED
18 CENTRAL AVENUE
WEST ORANGE, ESSEX COUNTY, NEW JERSEY
EPA ID NO. NJD002148799

TABLE OF CONTENTS

NARRATIVE

MAPS

1. UNITED STATES GEOLOGICAL SURVEY (USGS) TOPOGRAPHIC MAP - CALDWELL, ORANGE, ROSELLE AND ELIZABETH QUADRANGLES
2. SITE MAP
3. LOCAL TAX MAP (1986)
4. ESSEX COUNTY ROAD MAP (1986)
5. NEW JERSEY ATLAS BASE MAP - SHEET 26
6. NEW JERSEY ATLAS GEOLOGIC OVERLAY - SHEET 26
7. NEW JERSEY ATLAS WATER SUPPLY OVERLAY - SHEET 26
8. COMPUTER GENERATED WATER WITHDRAWAL POINTS MAP

ATTACHMENTS

- A. NJDEP, DHWM, BME; HAZARDOUS WASTE INSPECTION REPORT; JULY 1990
- B. SELECTO-FLASH, INC.; SITE EVALUATION SUBMISSION; DECEMBER 1986
- C. LETTER RE: DETAILS OF THE SALE AND LEASE OF THE SELECTO-FLASH PROPERTY; AUGUST 1989
- D. DAN RAVIV ASSOCIATES INC; RESPONSES TO NJDEP, DHWM, BEECRA; COMPLIANCE LETTERS AND PROPOSED SOIL CLEANUP PLAN; NOVEMBER 1988
- E. NJDEP, DHWM, BEECRA, LETTER RE: CONDITIONAL APPROVAL OF SITE CLEANUP PLAN; MAY 1989
- F. LETTER RE: SELECTO-FLASH ALLEGING THAT BIDDLEMAN IS RESPONSIBLE FOR CONTAMINATION AT THE SELECTO-FLASH SITE; JULY 1989
- G. LETTER RE: NOTIFICATION OF NEW JERSEY SPILL COMPENSATION FUND DAMAGE CLAIM; OCTOBER 1990
- H. SPECIAL REPORT 28; GROUNDWATER RESOURCES OF ESSEX COUNTY; 1968
- I. GROUNDWATER AND SOIL SAMPLING RESULTS; JANUARY 1987, APRIL 1987 AND JULY 1988

NJDEP = NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

DHWM = DIVISION OF HAZARDOUS WASTE MANAGEMENT

BME = BUREAU OF METRO ENFORCEMENT

BEECRA = BUREAU OF ENVIRONMENTAL EVALUATION AND CLEANUP
RESPONSIBILITY ASSESSMENT

NARRATIVE

SELECTO-FLASH INCORPORATED
18 CENTRAL AVENUE
WEST ORANGE, ESSEX COUNTY, NEW JERSEY
EPA ID NO. NJD002148799

GENERAL INFORMATION AND SITE HISTORY

The Selecto-Flash Incorporated (Selecto-Flash) site, approximately 1.6 acres in size, is located on Block 9; Lots 8, 9, 36 and 40 and Block 7; Lot 22 in a residential/commercial area of West Orange. The site fronts on Central Avenue to the northeast and is bordered on the southwest by Mitchell Street; on the northwest by the Tri-State Technical Sales Corporation, formerly the Biddleman Inc. (Biddleman) property; and on the southeast by an unnamed building that appears to be abandoned.

The population within a 4-mile radius of the site is approximately 280,000.

The site was owned and occupied from 1926 to 1980 by the Bates Manufacturing Company, a manufacturer of stapling machines. No other information is available regarding the Bates Manufacturing Company. Selecto-Flash has owned and occupied the site since 1980.

SITE OPERATIONS OF CONCERN

Selecto-Flash is involved in the silk screening of decals for tractor trailers and other types of vehicles. The silk screening operation consists of the burning of the decal image onto screens with ultra-violet light, the washing of the screens with water and a haze remover, the pressing of various inks onto the screens to reproduce the decal image and the cleaning of the screens with Vinyl Wash M, a commercial product composed of toluene, isopropyl alcohol and methyl isobutyl ketone. The screen cleaner, along with ink residue, is collected in metal troughs before being transferred to 55-gallon drums. This is the only hazardous waste that is generated at the site. The wash water generated when the haze remover is applied is discharged directly to the sanitary sewer (Attachment A).

Raw materials, the majority of which are small quantities of solvent based thinners, developers and retarders, are stored in the paint and solvent storage building, a one story concrete structure located near the western corner of the property (Attachment B).

In October 1986 Selecto-Flash entered into a contract with TCK Associates to sell and then lease back the site (Attachment C). This contract triggered an Environmental Cleanup Responsibility Act (ECRA) inspection by the New Jersey Department of Environmental Protection (NJDEP), now the New Jersey Department of Environmental Protection and Energy (NJDEPE), Division of Hazardous Waste Management (DHWM), now the Division of Responsible Party Site Remediation (DRPSR), Bureau of Environmental Evaluation and Cleanup Responsibility Assessment (BEECRA).

When Selecto-Flash first occupied the site there was an empty 10,000-gallon steel, fuel oil underground storage tank (UGST) at the site

that had been taken out of service by the previous owner. When Selecto-Flash took over the site they filled the tank with water. On November 26, 1986 Al's Tank Cleaning Service of West Orange, New Jersey removed the water from the tank, cleaned the tank and transported the tank contents under NJDEPE Manifest # NJA0221082 to B & L Oil Corporation of Newark, New Jersey for disposal (Attachment B). The tank was not removed from the site.

The company submitted a Site Evaluation Submission (SES) in January 1987 to the NJDEP, DHWM, BEECRA which included a sampling plan prepared by Dan Raviv Associates, Inc. of West Orange, New Jersey (Attachment B).

Dan Raviv Associates Inc., implemented the proposed sampling plan on January 21, 1987 prior to NJDEP approval. In May 1988 the NJDEP recommended that the sampling plan be amended to conform with ECRA requirements. Dan Raviv Associates, Inc. submitted a revised sampling and cleanup plan to the NJDEP in November 1988 (Attachment D). The NJDEP conditionally approved the sampling and cleanup plan in May 1989 (Attachment E).

Selecto-Flash advised the NJDEP in July 1989 that the proposed sale of the property would not take place; however, they would continue with the site remediation. The company also stated that they believed that the contamination on their property was caused by operations, specifically the handling of dry cleaning chemicals, at the adjoining Biddleman Inc. site (Attachment F). Biddleman ceased operations in January 1987.

The NJDEP advised Selecto-Flash that because the sale would not occur an ECRA trigger no longer existed and the case would be referred to the appropriate unit within the NJDEP to oversee the implementation of the cleanup plan under the appropriate New Jersey environmental laws.

In October 1990 Selecto-Flash filed a damage claim with the New Jersey Spill Compensation Fund for remediation costs incurred due to contamination at the site allegedly caused by operations conducted at the Biddleman Inc. site (Attachment G).

During a Pre-Sampling Assessment conducted by the NJDEPE, DRPSR, Bureau of Site Assessment (BSA) on January 23, 1992, it was revealed that both parties, currently in bankruptcy proceedings, are attempting to negotiate a settlement of this matter. All remediation at the site has been discontinued pending the outcome of the spill compensation damage claim; however, Selecto-Flash continues to operate at the site.

GROUNDWATER ROUTE

Essex County is situated entirely on the Triassic lowlands of the Piedmont Physiographic Province, one of six physiographic provinces included in the Appalachian Highland Physiographic Division. The Brunswick Formation and Watchung Basalt of the Newark Group of Late Triassic age underlie all of Essex County. The Brunswick Formation is predominantly shale and sandstone, but also includes minor amounts of conglomerate. The Watchung Basalt consists of three extensive sequences of lava flows intercalated with the shale and sandstone of

the Brunswick Formation. The total thickness of the Brunswick Formation is not known, but probably exceeds 6,000 feet (Attachment H). Groundwater is derived from that part of precipitation that does not run off the surface of the land to streams or return to the atmosphere through evaporation and transpiration. The geologic formations in Essex County may be divided into consolidated rocks of Triassic age and unconsolidated sediments of Pleistocene age (Attachment H).

Rocks of the Brunswick Formation are the main source of groundwater in Essex County. The shales and sandstones are generally capable of sustaining moderate to large yields to wells. The Watchung Basalt commonly is capable of yielding only small to moderate quantities of water. Water in these rocks occurs under both unconfined and confined conditions. Unconfined groundwater occurs mainly in the upland areas where overlying unconsolidated deposits are thin or absent. Confined and semiconfined groundwater conditions exist in lowland areas in Newark, parts of Fairfield and along the Passaic River. Confined groundwater is also encountered in the shales and sandstones directly beneath the basalt flows in the western part of the county (Attachment H).

Some of the various systems of joints and fractures in the consolidated rocks intersect so that water can move vertically as well as horizontally. Most wells tapping these rocks draw water from more than one water bearing zone; however, these zones in the Brunswick Formation have not yet been accurately defined. They are most certainly within the first 600 feet below land surface and, for the most practical purposes, are probably within the first 400 feet. The best producing wells in the Brunswick Formation in Essex County are between 300 and 400 feet deep (Attachment H).

In April 1987 two monitoring wells (MW1 and MW2) were installed at the site by Dan Raviv Associates, Inc. MW1 is 22 feet deep and is located near the southern corner of the property, adjacent to the UGST. MW2, also 22 feet deep, is located near the french drain system that parallels the northeast property line.

Sampling of these monitoring wells was performed by Dan Raviv Associates, Inc. on April 21 and 24, 1987 and on May 21, 1987. Sample analyses for volatile organic compounds (VOCs) and petroleum hydrocarbons (PHCs) revealed VOC contamination of 9.3 parts per billion (ppb) trichloroethene (TCE) MW2. All PHC concentrations were below the applicable NJDEPE cleanup standard of 1 part per million (ppm) (Attachment I).

Two additional monitoring wells (MW3 and MW4) were installed at the site in July 1988 by Dan Raviv Associates, Inc. at the request of the NJDEP, DHWM, BEECRA to further delineate the extent of groundwater contamination at the site. MW3 is 21 feet deep and is located near the rear property line while MW4 is 23 feet deep and is located near the front property line. Sampling of these wells for VOCs and PHCs, conducted in July, August and September 1988, revealed extensive VOC and PHC contamination with concentrations of, 16 ppb tetrachloroethene (PCE), 8.4 ppb TCE and 30 ppb vinyl chloride detected in MW1;

100 ppb trans-1,2-dichloroethene, 5.3 ppb PCE, 36 ppb vinyl chloride and 550 ppm PHCs detected in MW2; 14,000 ppb trans-1,2-dichloroethene, 5,400 ppb PCE, 420,000 ppb toluene, 5,500 ppb TCE, 97,000 ppb m-xylene, 59,000 ppb p,o-xylene and 26,000 ppm PHCs detected in MW3; and 300 ppb benzene, 370 ppb 1,1-dichloroethane, 20,000 ppb PCE, 650 ppb TCE and 21,000 ppm PHCs detected in MW4 (Attachment I).

Dan Raviv Associates, Inc. conducted groundwater elevation measurements at the site in August, September and November 1988 which indicated a virtually flat gradient at the site.

The following public supply wells are located within a 4-mile radius of the site:

| <u>OWNER</u> | <u>DEPTH(feet)</u> | <u>FORMATION*</u> | <u>DISTANCE(miles)</u> |
|-------------------------|--------------------|-------------------|------------------------|
| East Orange | 175 | GTRB | 3.9 |
| Elizabethtown Water Co. | 124 | GTRB | 3.4 |
| Elizabethtown Water Co. | 124 | GTRB | 3.4 |
| Elizabethtown Water Co. | 138 | GTRB | 3.4 |
| Elizabethtown Water Co. | 158 | GTRB | 3.4 |
| Elizabethtown Water Co. | 140 | GTRB | 3.4 |
| Elizabethtown Water Co. | 141 | GTRB | 3.4 |
| Elizabethtown Water Co. | 424 | GTRB | 3.4 |
| Elizabethtown Water Co. | 140 | GTRB | 3.4 |
| Elizabethtown Water Co. | 130 | GTRB | 3.4 |
| Elizabethtown Water Co. | 130 | GTRB | 3.4 |
| Elizabethtown Water Co. | 162 | GTRB | 3.4 |
| Elizabethtown Water Co. | 200 | GTRB | 3.4 |
| Elizabethtown Water Co. | 130 | GTRB | 3.4 |
| Elizabethtown Water Co. | 200 | GTRB | 3.4 |
| Elizabethtown Water Co. | 200 | GTRB | 3.4 |
| Elizabethtown Water Co. | 200 | GTRB | 3.4 |
| Elizabethtown Water Co. | 200 | GTRB | 3.4 |
| Elizabethtown Water Co. | 200 | GTRB | 3.4 |
| Elizabethtown Water Co. | 200 | GTRB | 3.4 |
| Elizabethtown Water Co. | 107 | GTRB | 3.4 |
| Elizabethtown Water Co. | 98 | GTRB | 3.4 |
| Elizabethtown Water Co. | 103 | GTRB | 3.4 |
| Elizabethtown Water Co. | 301 | GTRB | 3.4 |
| Elizabethtown Water Co. | 303 | GTRB | 3.4 |
| Essex Fells | 295 | GTRB | 3.8 |
| Essex Fells | 40 | GQSD | 3.6 |
| Orange | 76 | GQSD | 3.5 |
| Orange | 94 | GQSD | 3.3 |
| Orange | 132 | GQSD | 2.6 |
| South Orange | 200 | GTRB | 2.8 |
| South Orange | 274 | GTRB | 2.4 |
| South Orange | 182 | GTRB | 2.4 |
| South Orange | 115 | GTRB | 2.4 |
| South Orange | 156 | GTRB | 2.4 |
| South Orange | 299 | GTRB | 2.4 |
| South Orange | 122 | GTRB | 2.4 |
| South Orange | 382 | GTRB | 2.4 |
| South Orange | 349 | GTRB | 2.4 |
| South Orange | 200 | GTRB | 1.5 |
| South Orange | 343 | GTRB | 1.8 |
| South Orange | 350 | GTRB | 2.2 |

* GTRB = Brunswick Formation
QOSD = Stratified Drift

The population served by these public water supplies is approximately 130,000.

This is a highly urbanized area served exclusively by public water supplies.

There are numerous industrial wells located within a 4-mile radius of the site; however, none are located within a 1-mile radius of the site.

SURFACE WATER ROUTE

There is an unnamed brook located within 1,000 feet downslope of the site. Also, the Second River, the Passaic River and Newark Bay are located approximately 0.4 mile, 2.6 miles and 14.0, miles respectively, downslope of the site. There are no surface water intakes located along any of these surface water bodies within 15 stream miles from the site; however, they are used for recreational boating and fishing. Spillage has been observed around the paint solvent storage area; therefore, a potential exists for this spillage to migrate to on-site catch basins and ultimately to the downslope surface waters.

There are no freshwater or coastal wetlands located along the 15 stream-mile distance from the site. The 15 stream-mile target distance from the site runs through the Orange, Elizabeth and Roselle United States Geological Survey (USGS) quadrangles. In these quadrangles is habitat associated with the following federal and state threatened and endangered species: least tern, Savannah sparrow, grasshopper sparrow, wood turtle, pied-billed grebe, yellow-crowned night-heron, American bittern, bog turtle and Cooper's hawk.

AIR ROUTE

The Selecto-Flash site is not on the NJDEPE, Division of Environmental Quality (DEQ) list of active facilities and thus has no NJDEPE, DEQ air pollution control identification number and no NJDEPE, DEQ air pollution control permits. This is an active facility utilizing a variety of solvents in the manufacturing process; therefore, a potential for air releases from present plant operations does exist.

SOIL

Soil sampling for VOCs and PHCs was conducted at the site in January 1987, April 1987 and July 1988 by Dan Raviv Associated, Inc. In January 1987 contamination with PCE 20.0 ppm, xylene 19.0 ppm, TCE 18.0 ppm and trans- 1,2-dichloroethane 2.2 ppm was detected in soil borings collected along the northwest property line, which is the common property line for Selecto-Flash and Biddleman Inc. Soil samples collected in April 1987 from the MW1 and MW2 borings and from the northwest property line revealed contamination above the applicable NJDEPE cleanup standard of PCE at a concentration of 30.0 ppm (Attachment I).

Ten soil samples, five from the MW3 boring, four from the MW4 boring and one from the 10,000-gallon UGST area, were collected in July 1988.

Results from the samples collected at various depths in MW3 revealed contamination with 26,000 ppm PHCs. All VOC concentrations in MW4 were below the applicable NJDEPE cleanup standards; however, PHCs were detected at 21,000 ppm (Attachment I).

Dan Raviv Associates Inc. proposed a cleanup plan consisting of a soil venting system for the entire parking lot area, soil excavation along the northwest property line and in the area of MW3, the removal of a french drain system that parallels the northwest property line, the installation of a synthetic liner at the northwestern border to prevent future contaminant migration and additional sampling to verify that the soil is clean. The NJDEP, DHWM, BEECRA conditionally approved the plan in May 1989; however, because Selecto-Flash is in bankruptcy proceedings the cleanup plan has not been implemented.

DIRECT CONTACT

This site is completely fenced; thus, a potential for the off-site population to come into contact with hazardous waste at the site does not exist. Plant employees handle drums of hazardous waste as a routine part of daily operational activities; therefore, a potential exists for plant employees to come into contact with hazardous waste.

FIRE AND EXPLOSION

There have been no reported fires or explosions at the site; however, the solvents used at the site are flammable and would support a fire or explosion.

ADDITIONAL CONSIDERATIONS

The site consists primarily of asphalt pavement; thus, a potential for damage to flora or fauna does not exist. The paint solvent storage building where spillage has been observed is located along the common border of Selecto-Flash and Biddleman properties. This border is separated only by a chain link fence; therefore, a potential for off-site property damage does exist.

ENFORCEMENT ACTIONS

The NJDEPE has initiated no enforcement actions against Selecto-Flash.

PRIORITY DESIGNATION

Based on the information available, this site is given a high priority. Two media, soil and groundwater have been affected. The two potential responsible parties for this site, Selecto-Flash and Biddleman Inc. are attempting to negotiate the settlement of a damage claim filed with the New Jersey Spill Compensation Fund. Selecto-Flash alleges that operations conducted at the Biddleman site caused the contamination of the Selecto-Flash property. All remedial activities at the site have ceased pending the outcome of the damage claim.

RECOMMENDATIONS

A Site Inspection (SI) Review is warranted to determine the need for further action under the Comprehensive Environmental Response, Liability and Compensation Act (CERCLA).

Submitted by:

Michael DiGiore, HSMS III
NJDEPE, Bureau of Field Operations
Site Assessment Section

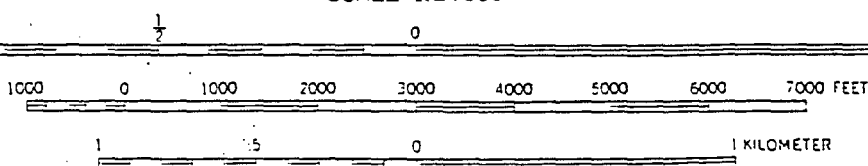
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

MAPS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

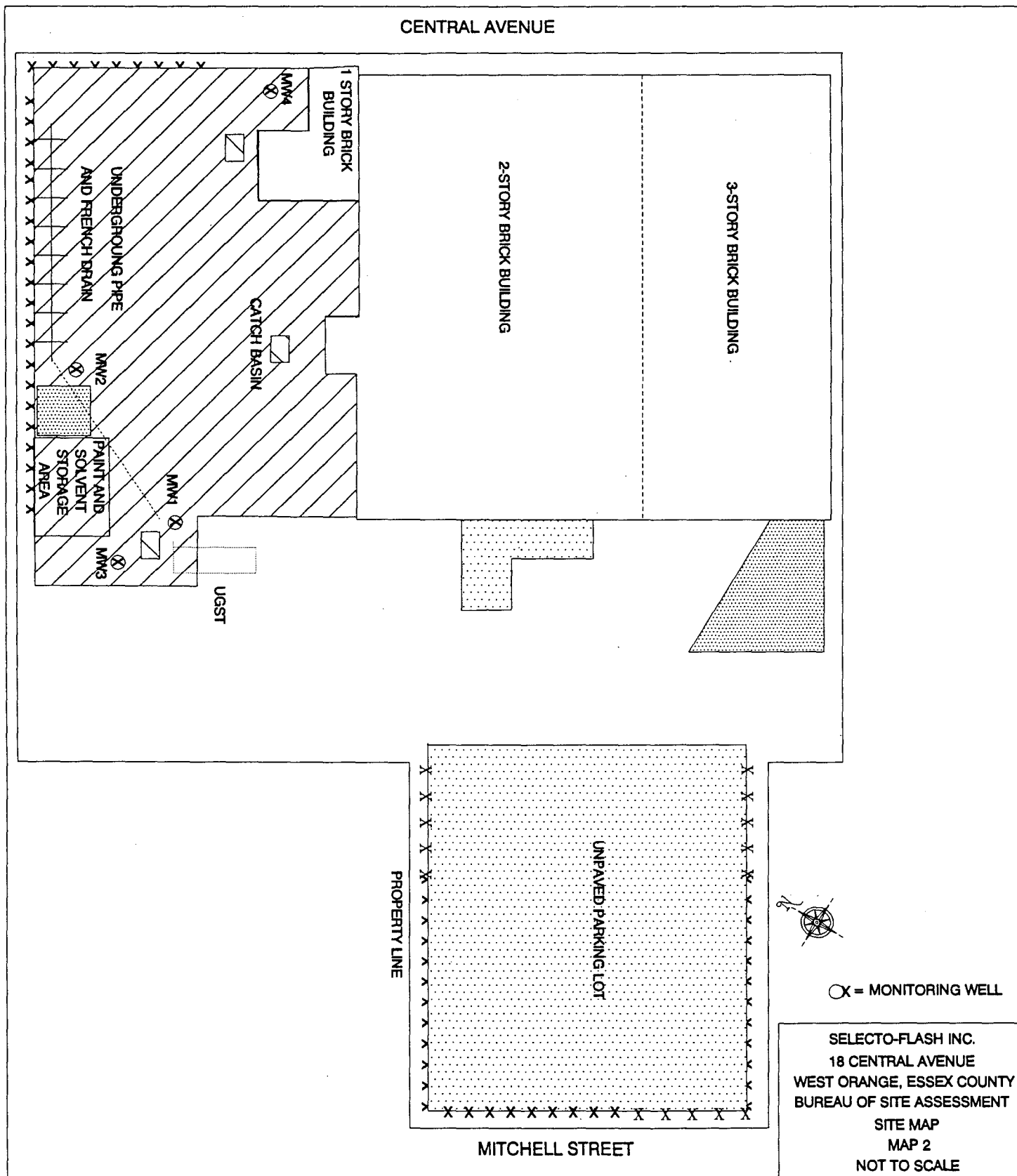


SCALE 1:24 000



CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

SELECTO-FLASH INC.
18 CENTRAL AVENUE
WEST ORANGE, ESSEX COUNTY
LATITUDE: 40 46' 12"
LONGITUDE: 74 14' 40"
USGS TOPOGRAPHIC MAP
MAP 1





TAX MAP

TOWNSHIP OF WEST ORANGE

ESSEX COUNTY

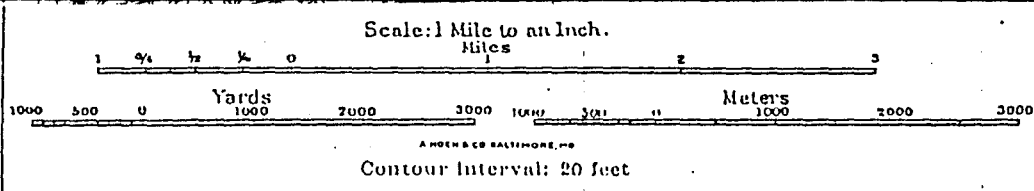
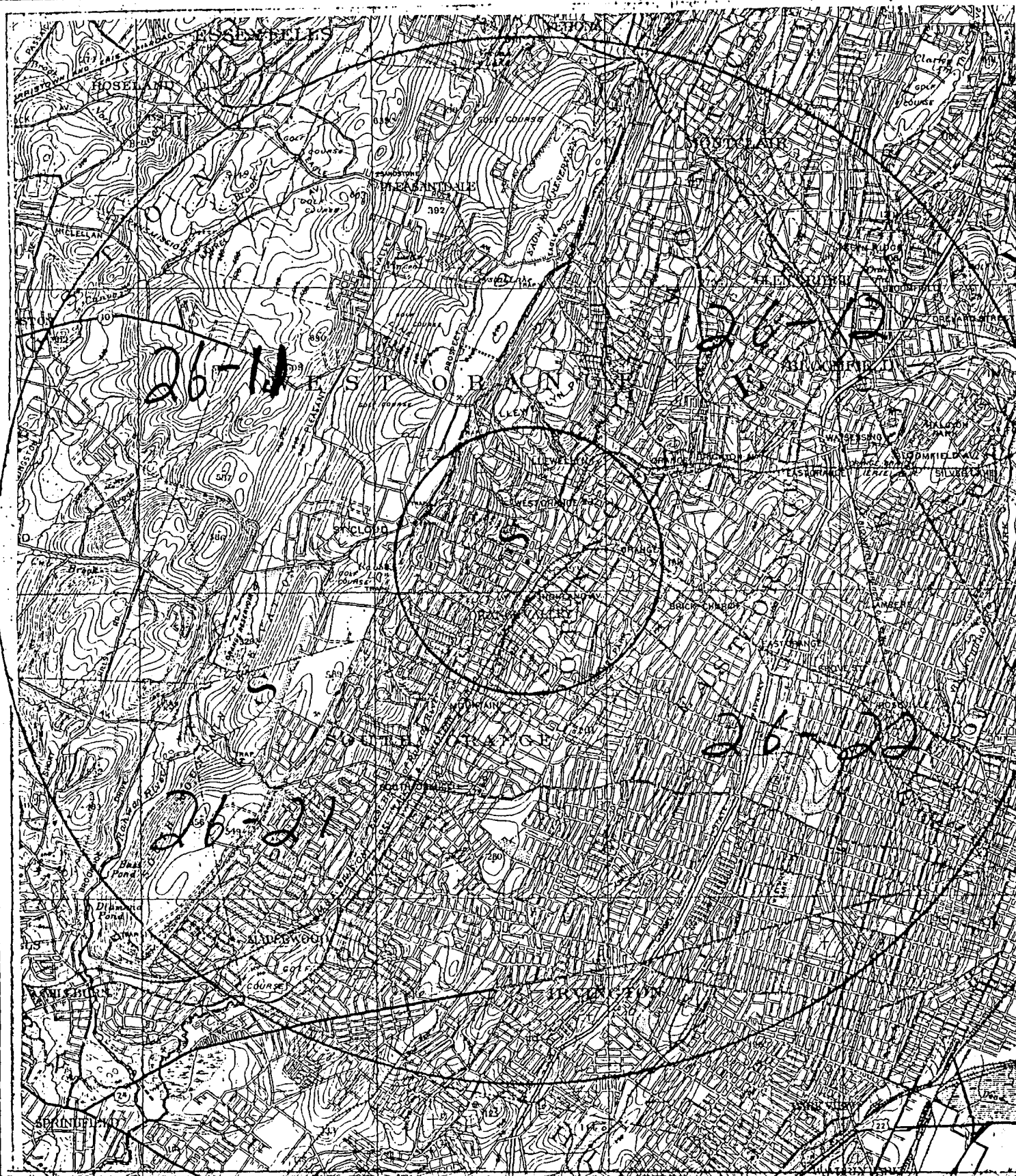
NEW JERSEY

MARCH 9, 1936

SELECTO-FLASH INC.
18 CENTRAL AVENUE
WEST ORANGE, ESSEX COUNTY
TAX MAP
MAP 3










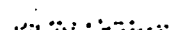
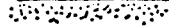
SELECTO-FLASH INC.
18 CENTRAL AVENUE
WEST ORANGE, ESSEX COUNTY
ESSEX COUNTY ROAD MAP
MAP 4



SELECTO-FLASH INC.
 18 CENTRAL AVENUE
 WEST ORANGE, ESSEX COUNT
 NEW JERSEY ATLAS BASE MA
 SHEET 26
 MAP 5

LEGEND FOR ATLAS SHEET 26 (GEOLOGY)

-  — INDUSTRIAL WELL YIELD OVER 70 GALLONS PER MINUTE (INCLUDING PRIVATE WELLS)
-  — PUBLIC SUPPLY WELL YIELDING OVER 70 GALLONS PER MINUTE
-  — UNSUCCESSFUL ROCK WELL YIELDING LESS THAN 70 GALLONS PER MINUTE
-  — UNSUCCESSFUL SAND WELL YIELDING LESS THAN 70 GALLONS PER MINUTE
-  — NO TEST — NO DATA ON YIELD

-  — FAULT (DASHED WHERE INFERRED)
-  — CONTACT (DASHED WHERE INFERRED)
-  — PHYSIOGRAPHIC PROVINCE BOUNDARY
-  — WATER SUPPLY TRANSMISSION LINE

NOTE: WHERE THE PRECAMBRIAN FORMATION BOUNDARIES TERMINATE ABRUPTLY, IT IS THE GEOLOGIST'S OPINION THAT THE GEOLOGICAL COMPLEXITY OF THE AREA PREVENTS FURTHER INTERPRETATIONS.

Kmr — CRETACEOUS MAGOTHY AND RARITAN FORMATIONS (SAND AND CLAY)

Tb — TRIASSIC BRUNSWICK FORMATION

Tc — TRIASSIC CONGLOMERATE BEDS OF THE STOCKTON FORMATION

Tr — TRIASSIC LOCKATONG FORMATION

Tdb — TRIASSIC DIABASE

Tbs — TRIASSIC BASALT FLOWS

Sd — SILURIAN DECKER LIMESTONE AND LONGWOOD SHALE FORMATIONS

Sgp — SILURIAN GREEN POND CONGLOMERATE

Omb — ORDOVICIAN MARTINSBURG SHALE

cox — CAMBRO ORDOVICIAN KITTATINNY LIMESTONE

ch — CAMBRIAN HARDYSTON SANDSTONE

PRECAMBRIAN:

gh — HORNBLende GRANITE WITH PYROXENE GRANITE

ga — ALASKITE

am — AMPHIBOLITE

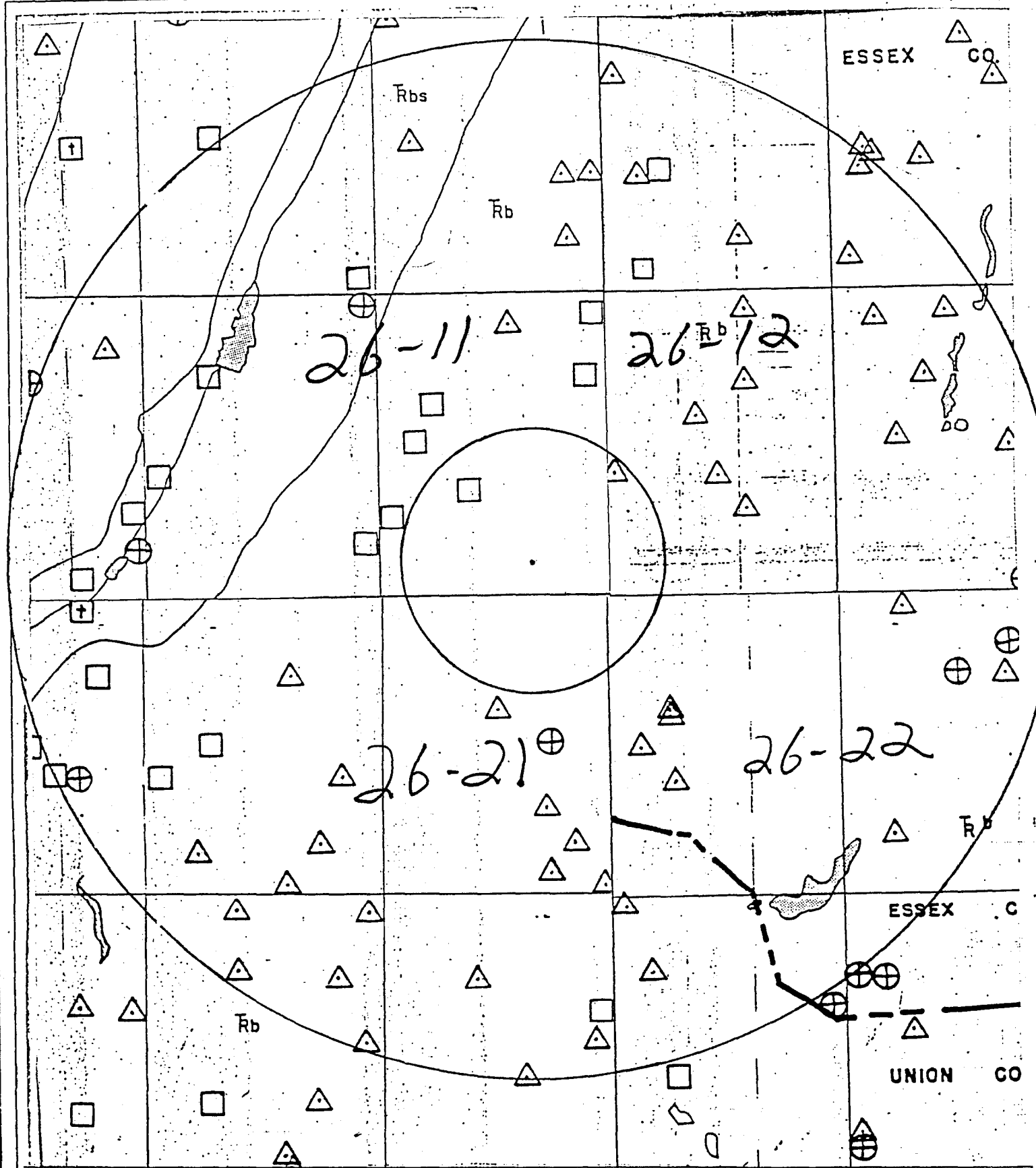
px — PYROXENE GNEISS

gnq — QUARTZ PLAGIOCLASE GNEISS

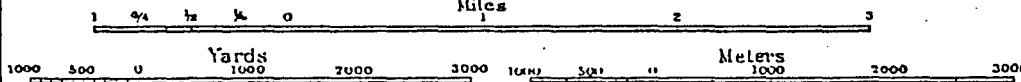
gnb — BIOTITE GNEISS

sk — SKARN, GRAPHITE SCHIST

fn — FORMATION NOT DETERMINED



Scale: 1 Mile to an Inch.
Miles

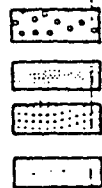


Contour Interval: 20 feet

SELECTO-FLASH INC.
18 CENTRAL AVENUE
WEST ORANGE, ESSEX COUNTY
NEW JERSEY ATLAS GEOLOGICAL
OVERLAY-SHEET 26
MAP 6

LEGEND

WATER SUPPLY



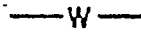
AREA SERVED BY PRIVATE WATER SERVICE COMPANIES
 AREA SERVED BY REGIONALLY OWNED WATER SERVICE COMPANIES
 AREA SERVED BY MUNICIPALLY OWNED WATER SERVICE COMPANIES
 AREA NOT PRESENTLY SERVED BY WATER SERVICE



PUBLIC SUPPLY WELLS



SURFACE WATER INTAKE

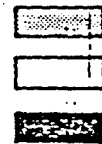


MAJOR WATER MAINS



WATER MAIN ACROSS HIGHWAY FOR FUTURE USE

SEWAGE, LANDFILL



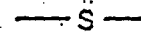
AREA SERVED BY PUBLIC SEWAGE SERVICE
 AREA NOT PRESENTLY SERVED BY SEWAGE SERVICE
 SANITARY LANDFILLS



SEWAGE TREATMENT PLANTS (CAPACITY < 0.3 mgd)

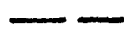


SEWAGE TREATMENT PLANTS (CAPACITY ≥ 0.3 mgd)

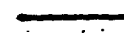


MAJOR SEWAGE TRANSMISSION LINES

DRAINAGE BASIN



DRAINAGE BASIN BOUNDARY



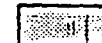
RIVER BASIN BOUNDARY



HUDSON DRAINAGE BASIN NAME

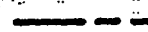


STREAMS AND RIVERS



FLOOD PRONE AREAS

POPULATION



COUNTY BOUNDARY



MUNICIPAL BOUNDARY



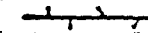
POPULATION DENSITY IN PERSONS PER SQUARE MILE



AREA IN SQUARE MILES



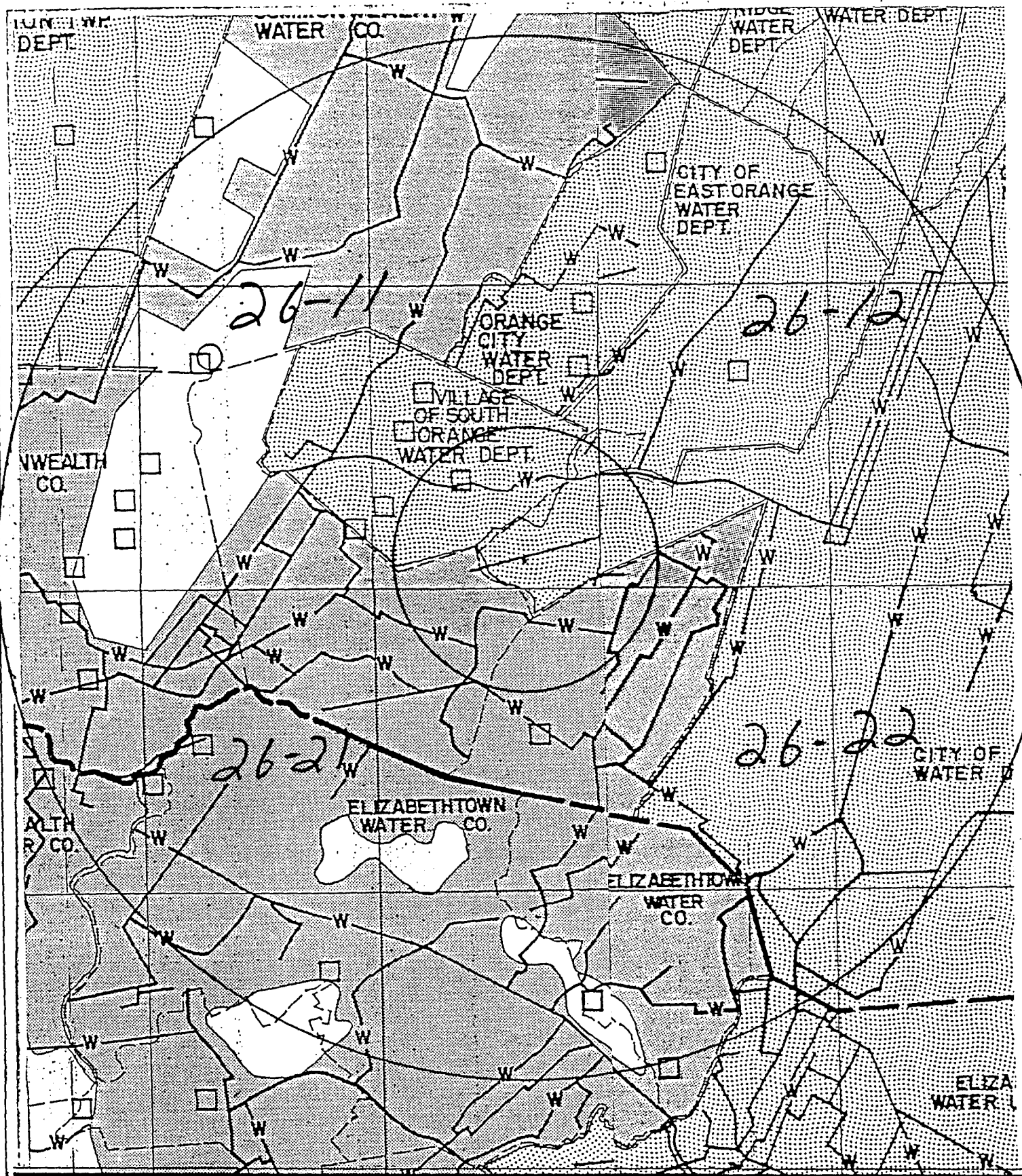
PERCENT AREA OF MUNICIPALITY ON BLOCK MARKET ROADS



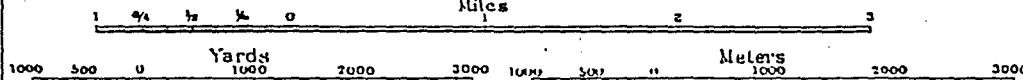
BUILT UP AREAS



STATE BOUNDARY



Scale: 1 Mile to an Inch.
Miles



Contour Interval: 20 feet

SELETO-FLASH INC.
18 CENTRAL AVENUE
WEST ORANGE, ESSEX COUNT
NEW JERSEY
ATLAS WATER
SUPPLY OVERLAY-SHEET 26
MAP 7

I. Water Well Records

| <u>Location</u> | <u>Owner</u> | <u>Year Drilled</u> | <u>Screen Setting or Depth of Casing</u> | <u>Total Depth</u> | <u>g/m Yield</u> | <u>Formation</u> |
|-----------------|-------------------------------|-------------------------|--|------------------------|----------------------|------------------|
| 26-11-118 | Boro of Essex Fells | 1957 | | 96 | No test | Q |
| 26-11-134 | " | 1956 | | 190 | 95 | Trb |
| 26-11-137 | Resistoflex Corp. | 1968 | 76 | 305 | 250 | " |
| 26-11-142 | Essex Fells, Boro of | | | 200 | 255 | Q-Trb |
| 26-11-152 | Polander, M. & Son | 1968 | 124'9" | 389 | 221 | Trb |
| 26-11-157 | Kidde, W. & Co. | | | 405 | 30 | " |
| 26-11-185 | Twp. of Livingston | 1955 | 66'10" | 442 | 97 | " |
| 26-11-185 | " | 1955 | 88'10" | 313 | 230 | " |
| 26-11-186 | " | 1955 | 68'7" | 384 | 290 | " |
| 26-11-211 | Boro of Essex Fells | 1959 | 61 | 89 | 457 | Q |
| 26-11-212 | " | | | 260 | 0 | Trbs |
| 26-11-213 | " | | | 300 | 0 | " |
| 26-11-221 | " | | | 248 | 10 | " |
| 26-11-224 | " | | | 295 | 400 | Trb |
| 26-11-225 | " | | | 80 | 25 | Q |
| 26-11-256/9 | " | | | 43 | 120 | " |
| 26-11-266 | Nichols, C.W. | | | 510 | 25 | Trbs |
| 26-11-354 | Eagle Rock Mfg. Co. | | | 841 | 110 | " |
| 26-11-359 | Montclair Golf Club | 1964 | 16 | 500 | 138 | Trb |
| 26-11-426 | A&P | 1954 | | 298 | 145 | " |
| 26-11-451 | Twp. of Livingston | 1955 | | 291 | 412 | " |
| 26-11-464 | " | 1964 | 107 | 114 | No test | Q |
| 26-11-512 | Whalen, S. (U.S. Cigar Store) | | | 502 | 60 | Trbs |
| 26-11-546 | Rahway Water Dept. | 1966 | 22/40 | 269 | 390 | Trb |
| 26-11-599 | Rock Springs Country Club | 1956 | 19'9" | 406 | 25 | Trb-Trbs |
| 26-11-611 | Essex Co. Country Club | 1965 | 62'11" | 72 | 715 | Q |
| 26-11-645 | " | 1954 | 21 | 115 | 100 | Trbs |
| 26-11-668 | Nickel Alkaline Battery Div. | 1961 | 46 | 520 | 190 | Trb |
| 26-11-669 | Tell Mfg. Co., Inc. | | | 500 | 120 | " |
| 26-11-695 | Carl Del'Spina & Co. | 1958 | 25 | 400 | 330 | " |
| 26-11-913 | East Orange, City of | 1958 | 68 | 102 | 700 | Q |
| 26-11-717 | " | 1958 | 81'9" | 116 | 775 | " |
| 26-11-717 | " | 1958 | 78 | 110 | 700 | " |
| 26-11-728 | " | 1962 | 125'4-1/2" | 171 | 20 | " |
| 26-11-735 | St. Barnabas Medical Ctr. | 1961 | 32 | 819 | 170 | Trbs-Trb |
| 26-11-793 | City of Orange | | | 75 | 1040 | Q |
| 26-11-796 | " | | | 14 | 0 | Trbs |
| 26-11-797 | " | | | 104 | 700 | Q |
| 26-11-819 | " | 1966 | 73'6" | 132 | 1404 | " |
| 26-11-833 | Rock Springs Country Club | 1957 | 22 | 750 | 35 | Trbs-Trb |
| 26-11-847 | City of Orange | | | 99 | 1480 | Q |
| 26-11-896 | Village of South Orange | | | 355 | 220 | Trb |
| 26-11-923 | Orange Products | 1960 | 35'3" | 500 | 257 | " |
| 26-11-933 | Orange Water Dept. | 1958 | 35 | 551 | 300 | " |
| 26-11-939 | City of Orange | 1967 | 56'3" | 550 | 350 | " |
| 26-11-943 | Village of South Orange | 1956 | 45 | 350 | 560 | " |
| 26-11-945 | " | | | 301 | 400 | " |
| 26-11-957 | " | 1956 | 21'10" | 343 | 350 | " |
| 26-11-971 | " | | | 122 | 275 | " |

J. Geodetic Control Survey monuments described
Index Maps 20, 21, 25, 26

H. (contd.)

Cathedral Evangelica Reformada, Newark
 New Point Baptist Church, Newark
 South Park Presbyterian Church, Newark
 Pan American C.M.A. Church, Newark
 First United Methodist Church, Newark
 House of Prayer Episcopal Church and Rectory, Newark
 Grace Church, Newark
 North Reformed Church, Newark
 The Old First Presbyterian Church, Newark
 Trinity Episcopal Church, Newark

I. Water Well Records

| <u>Location</u> | <u>Owner</u> | <u>Year Drilled</u> | <u>Screen Setting or Depth of Casing</u> | <u>Total Depth</u> | <u>g/m Yield</u> | <u>Formation</u> |
|-----------------|--------------------------------|-------------------------|--|------------------------|----------------------|------------------|
| 26-12-157 | Hahne & Co. | | | 505 | 240' | Trb |
| 26-12-164 | Quadrel, Michael | 1955 | 18 | 151 | 75 | " |
| 26-12-194 | Town of Montclair | 1966 | 21/41 | 300 | 950 | " |
| 26-12-194 | Montclair Water Bureau | 1966 | 16/36 | 300 | 470 | " |
| 26-12-218 | Glen Ridge Country Club | 1967 | 40 | 300 | 200 | " |
| 26-12-222 | Bloomfield Savings Bank | 1956 | | 145 | 100 | " |
| 26-12-313 | Hoffman-LaRoche | | | 902 | 128 | " |
| 26-12-327 | Food Fair Stores, Inc. | | | 209 | 70 | " |
| 26-12-334 | Kingsland's Paper Mills | | | 400 | 125 | " |
| 26-12-335 | Wiggins Plastics, Inc. | 1963 | 24'-3/12" | 378 | 180 | " |
| 26-12-338 | Federal Telecommunications Lab | 1958 | 39'6" | 500 | 114 | " |
| 26-12-386 | Liquid Carbonic Corp. | | | 518 | 100 | " |
| 26-12-389 | National Yeast Corp. | | | 512 | 126 | Trbs |
| 26-12-394 | Federal Leather Co. | | | 802 | 60 | Trb |
| 26-12-417 | Schering Corp. | | | 478 | 127 | " |
| 26-12-423 | Kidde W. & Co. | | | 400 | 400 | " |
| 26-12-448 | Orange Dairy Co. | | | 250 | 75 | " |
| 26-12-449 | City of Orange | 1970 | 61'5" | 500 | 524 | " |
| 26-12-478 | " | 1971 | 56 | 506 | 500 | " |
| 26-12-486 | Colonial Life Ins. Co. | | | 357 | 323 | " |
| 26-12-513 | Leonora Corp. | 1957 | 33 | 200 | 70 | " |
| 26-12-526 | Eastern Tool & Mfg. Co. | | | 550 | 126 | " |
| 26-12-537 | National Grain & Yeast Corp. | | | 457 | 125 | " |
| 26-12-545 | MGM Records (Div. of Loews) | 1959 | 23 | 211 | 115 | " |
| 26-12-545 | " | 1960 | 36 | 579 | 120 | " |
| 26-12-547 | " | | | 400 | 275 | " |
| 26-12-557 | Warner Mfg. Co. | | | 395 | 220 | " |
| 26-12-566 | Tiffany & Co. | | | 800 | 50 | " |
| 26-12-577 | Bloomfield Moulding Co. | 1968 | 18 | 350 | 200 | " |
| 26-12-622 | Mansol Ceramics Co. | | | 250 | 100 | " |
| 26-12-644 | Droll Molding Co., Inc. | 1962 | 50 | 300 | 80 | " |
| 26-12-655 | Summit Chemical Prod. Corp. | | | 414 | 150 | " |
| 26-12-657 | Crowhurst, A.J. & Sons | | | 83 | 325 | Q |
| 26-12-675 | Aluminum Finishing Co. | | | 150 | 100 | Trb |
| 26-12-682 | North Newark Ice Co. | | | 250 | 123 | " |
| 26-12-695 | V.H. Swenson Co. | 1962 | 49 | 40 | 170 | " |

| | | | | | | |
|-----------|-----------------------------|------|--------|------|-----|-----|
| 26-12-723 | Mountain Ice Co.✓ | | | 634 | 300 | Trb |
| 26-12-729 | Vinton Apartments Inc. | 1955 | 52 | 255 | 160 | " |
| 26-12-747 | Columbia Theaters, Inc. | 1953 | 26 | 312 | 140 | " |
| 26-12-751 | Woolworth & Co. | 1965 | 76'10" | 300 | 80 | " |
| 26-12-758 | Food Fair Stores | 1956 | 73 | 214 | 180 | " |
| 26-12-783 | Pabst Brewing Co. | | | 535 | 300 | " |
| 26-12-812 | Ward Baking Co.— | | | 200 | 111 | " |
| 26-12-822 | Crabb, W. & Co. | | | 600 | 300 | " |
| 26-12-827 | Trent Hat Corp. | | | 200 | 150 | " |
| 26-12-839 | Reid Ice Cream Co. | | | 600 | 100 | " |
| 26-12-846 | Fagin Brothers Coal Yard | | | 150 | 100 | " |
| 26-12-864 | Barton Realty Co., Inc. | 1965 | | 385 | 100 | " |
| 26-12-869 | Alderney Dairy Co. | | | 450 | 113 | " |
| 26-12-893 | Ballantine & Son Ale | | | 1200 | 0 | " |
| 26-12-896 | Mutual Benefit Life Ins.Co. | 1965 | 44'8" | 312 | 219 | " |
| 26-12-898 | Prudential Life Ins. Co. | | | 1225 | 15 | " |
| 26-12-918 | Abbey Record Co. | 1962 | 24 | 697 | 135 | " |
| 26-12-921 | Two Guys from Harrison | 1959 | 99 | 405 | 628 | " |
| 26-12-933 | DuPont | | | 202 | 148 | " |
| 26-12-942 | N.J. Rolling Mills | 1963 | 99 | 400 | 20 | " |
| 26-12-944 | Harrison Supply Co. | 1966 | 88 | 174 | 50 | " |
| 26-12-948 | Mountain Ice & Fuel Co. | | | 350 | 122 | " |
| 26-12-957 | Doelger Brewery | | | 400 | 175 | " |
| 26-12-966 | Verzelano, N. | 1959 | 146 | 235 | 150 | " |
| 26-12-976 | Driver-Harris Co. | 1946 | 241 | 337 | 600 | Q |
| 26-12-994 | Acme Refining Co. | 1960 | 144 | 500 | 150 | Trb |
| 26-12-996 | Lister Brothers | | | 1200 | 0 | " |
| 26-12-998 | Stanley Tools | | | 637 | 125 | " |

J. Geodetic Control Survey monuments described
Index Maps 21,26; adjacent Index Maps 20,25

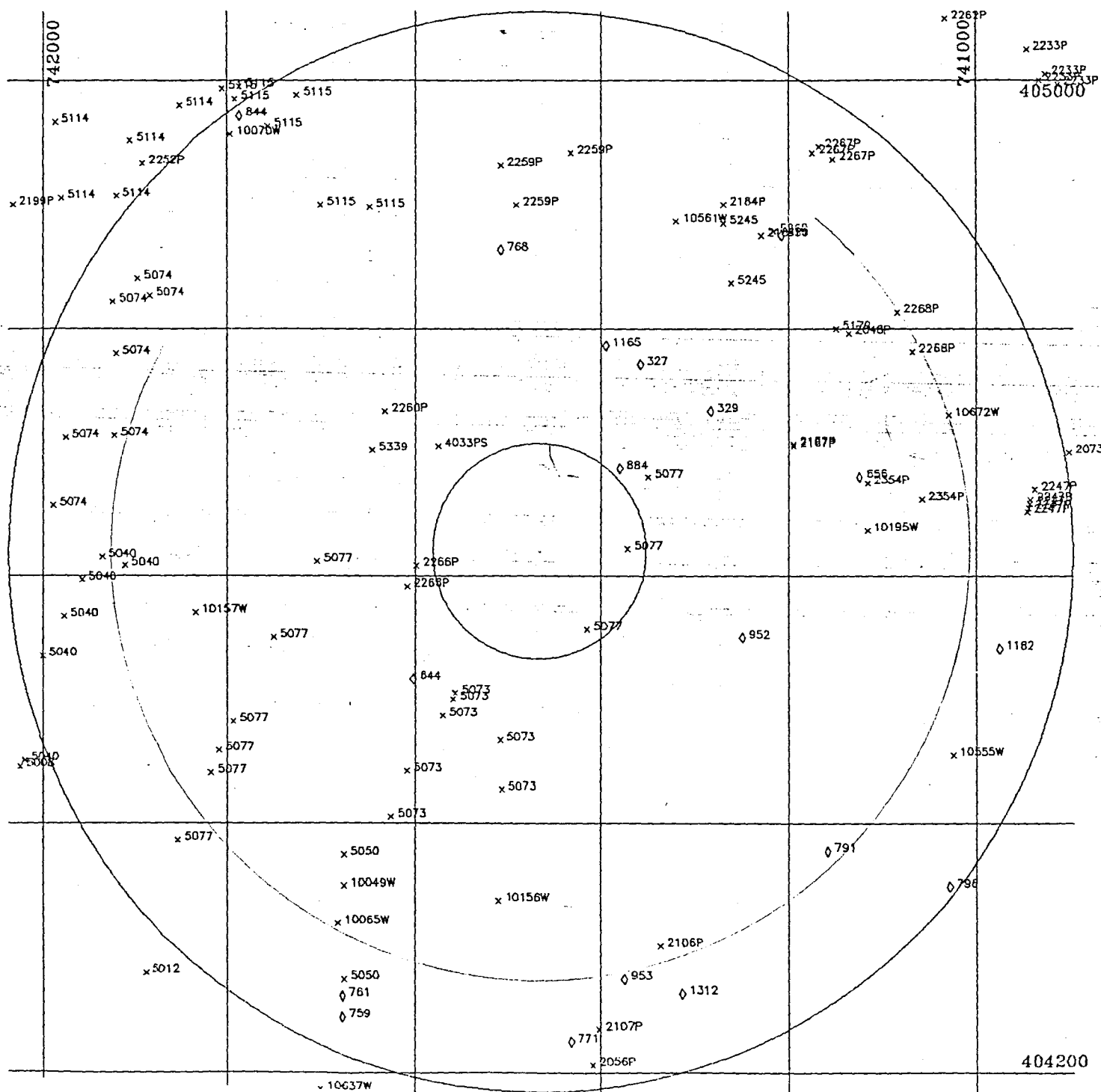
I. Water Well Records

| <u>Location</u> | <u>Owner</u> | <u>Year Drilled</u> | <u>Screen Setting or Depth of Casing</u> | <u>Total Depth</u> | <u>g/m Yield</u> | <u>Formation</u> |
|-----------------|----------------------------|-------------------------|--|------------------------|----------------------|------------------|
| 26-21-131 | City of Orange | 1960 | 75 | 75 | No test | Q |
| 26-21-138 | Twp. of Millburn | 1967 | 83 | 300 | 214 | Trb |
| 26-21-151 | Millburn Springfield Co. | 1956 | 37 | 645 | 75 | Trbs-Trb |
| 26-21-155 | Short Hills Water Co. | | | 84 | 677 | Q |
| 26-21-159 | " | | | 76 | 690 | " |
| 26-21-167 | Hudson Mfg. | 1966 | 80 | 210 | 60 | Trb |
| 26-21-175 | Baltrusal Golf Club | | | 288 | 32 | " |
| 26-21-177 | " | | | 515 | 94 | " |
| 26-21-229 | Maplewood Country Club | 1963 | 54 | 298 | 488 | " |
| 26-21-246 | Elizabethtown Water Co. | | | 400 | 93 | " |
| 26-21-247 | " | | | 130 | 400 | " |
| 26-21-268 | Voorhees & Son | | | 220 | 126 | " |
| 26-21-275 | Bardy Farms | 1955 | 30 | 450 | 150 | " |
| 26-21-289 | Interchemical Corp. | | | 349 | 200 | " |
| 26-21-294 | Ansco | 1949 | 60 | 385 | 200 | " |
| 26-21-352 | Olympic Park | | | 300 | 420 | " |
| 26-21-364 | Irvington, City of | | | 452 | 45 | " |
| 26-21-391 | Bennet Oil Co. | | | 298 | 100+ | " |
| 26-21-395 | Hatfield Cable & Wire Co. | | | 380 | 150 | " |
| 26-21-397 | Cooper Alloy Foundry Co. | | | 325 | 95 | " |
| 26-21-399 | Atlas Tool Co. | 1959 | 51 | 300 | 165 | " |
| 26-21-419 | Prince & Ganska Farm | | | 255 | 275 | " |
| 26-21-448 | " | 1954 | 58 | 420 | 300 | " |
| 26-21-451 | Howard Johnson's Rest. | | | 200 | 110 | " |
| 26-21-461 | Potter Engineering | | | 70 | 180 | Q |
| 26-41-463 | Accurate Bushing Co. | 1974 | 135 | 250 | 165 | Trb |
| 26-21-484 | Plainfield-Union Water Co. | | | 250 | 160 | " |
| 26-21-491 | Elizabethtown Water Co. | 1965 | 123-1/2 | 300 | 400 | " |
| 26-21-521 | Kratt, Wm. & Co. | | | 345 | 210 | " |
| 26-21-527 | Pyro-Plastics | | | 344 | 250 | " |
| 26-21-533 | Food Fair Stores, Inc. | 1955 | 27'9" | 485 | 110 | " |
| 26-21-538 | Union Co. Park Commission | | | 84 | 350 | Q |
| 26-21-566 | Sucad, Inc. | | | 235 | 70 | Trb |
| 26-21-573 | Plainfield-Union Water Co. | 1955 | 181'10" | 522 | 448 | " |
| 26-21-586 | Rotary Pen Co. | 1962 | 43.5 | 405 | 120 | " |
| 26-21-589 | " | 1963 | 47 | 402 | 165 | " |
| 26-21-591 | White Laboratories, Inc. | | | 470 | 530 | " |
| 26-21-627 | Garden State Bowling Alley | 1958 | 41 | 425 | 250 | " |
| 26-21-659 | Progressive Products | | | 150 | 198 | " |
| 26-21-663 | Elizabethtown Water Co. | | | 400 | 525 | " |
| 26-21-666 | Schering Corp. | 1955 | 50 | 475 | 550 | " |
| 26-21-742 | Diamond Expansion Bolt Co. | 1963 | 51 | 260 | 300 | " |
| 26-21-745 | Circle Plastics Co. | 1962 | 40 | 302 | 250 | " |
| 26-21-751 | Aeolian Co. | | | 136 | 175 | " |
| 26-21-761 | Lampert Dairy Farms, Inc. | 1967 | 23/52 | 270 | .6 | " |
| 26-21-798 | Fibro Corp. | 1957 | 67 | 250 | 75 | " |
| 26-21-827 | Gibson Associates | 1956 | 32'4" | 271 | 274 | " |
| 26-21-834 | Plainfield-Union Water Co. | 1957 | 36'8" | 509 | 457 | " |

I. Water Well Records

| <u>Location</u> | <u>Owner</u> | <u>Year Drilled</u> | <u>Screen Setting or Depth of Casing</u> | <u>Total Depth</u> | <u>g/m Yield</u> | <u>Formation</u> |
|-----------------|-------------------------------|-------------------------|--|------------------------|----------------------|------------------|
| 26-22-143 | Irrington Smelting & Ref.Wks. | 1953 | 71 | 209 | 192 | Trb |
| 26-22-143 | " | 1953 | 62'4" | 304 | 300 | " |
| 26-22-145 | Associated Mech.Devices | 1960 | 83 | 250 | 80 | " |
| 26-22-149 | Gallo Asphalt Co. | 1961 | 107 | 201 | 200 | " |
| 26-22-213 | Krueger Brewing Co. | | | 656 | 435 | " |
| 26-22-228 | Smith & Smith Funeral Parlor | | | 776 | 25 | " |
| 26-22-234 | U.S. Navy | | | 565 | 39 | " |
| 26-22-237 | Conmar Corp. | | | 300 | 450 | " |
| 26-22-262 | National Lock Washer Co. | | | 800 | 100 | " |
| 26-22-275 | Linde Air Products Co. | 1954 | 44'5" | 500 | 124 | " |
| 26-22-293 | New York Port Authority | 1968 | 60 | 370 | 260 | " |
| 26-22-322 | Standard Bitulithic Co. | 1964 | 89'11" | 406 | 360 | " |
| 26-22-327 | Pfeiffer, H. | | | 505 | 12 | " |
| 26-22-333 | Arkansas Co., Inc. | 1965 | 72'9" | 400 | 65 | " |
| 26-22-333 | Ronson Metals Corp. | 1965 | 80 | 300 | 220 | " |
| 26-22-334 | Wilson, H.A. Co. | | | 778 | 8 | " |
| 26-22-345 | Chem-Fleur | 1965 | 97 | 306 | 200 | " |
| 26-22-355 | Englehard Ind., Inc. | 1966 | 54/79'8" | 428 | 167 | " |
| 26-22-355 | " | 1965 | 80'7" | 400 | 401 | " |
| 26-22-356 | " | 1966 | 78.5/92 | 495 | 4 | " |
| 26-22-368 | Rutherford & Delaney Hldg.Co. | 1956 | 42 | 220 | 100 | " |
| 26-22-411 | Bristol Meyers | 1967 | 49 | 500 | 159 | " |
| 26-22-418 | Dillon-Beck Mfg. Co. | | | 379 | 100 | " |
| 26-22-449 | Elizabethtown Water Co. | | | 400 | 550 | " |
| 26-22-463 | Orbis Products Corp. | 1958 | 157 | 350 | 12 | " |
| 26-22-517 | Pennick, S.B. Co. | 1961 | 64'10" | 585 | 24 | " |
| 26-22-518 | Pure Carbonic | | | 600 | 30 | " |
| 26-22-546 | Black Diamond Grit Co. | 1960 | 92 | 265 | 150 | " |
| 26-22-574 | Londat Aetz Fabric Co. | 1965 | 50 | 600 | 30 | " |
| 26-22-574 | Elizabeth Abbatoir | | | 641 | 75 | " |
| 26-22-744 | Morey LaRue Laundry | | | 700 | 15 | " |
| 26-22-745 | " | | | 600 | 14 | " |
| 26-22-785 | Stevenson Car Co. | | | 300 | 95 | " |
| 26-22-786 | Feldman Brothers | | | 805 | 54 | " |
| 26-22-795 | Reichold Chemical Co. | 1967 | 39'6" | 400 | 415 | " |
| 26-22-828 | Singer Mfg. Co. | | | 1200 | 90 | " |
| 26-22-833 | General Chemical Co. | 1965 | 106 | 500 | 70 | " |
| 26-22-842 | Clauss Bottling Works | | | 500 | 50 | " |
| 26-22-847 | Elizabethtown Gas & Light | | | 300 | 0 | " |
| 26-22-852 | Riker Motor Co. | | | 500 | 0 | " |
| 26-22-854 | Thomas & Betts Co., Inc. | | | 500 | 264 | " |

J. Geodetic Control Survey monuments described
Index Map 26; adjacent Index Map 31



| NUMBER | NAME | SOURCEID | LOCID | LAT | LON | LLAOC | DISTANCE | COUNTY | NIN | DEPTH | GED1 | GED2 | CAPACITY |
|--------|-------------------------------|-------------|-------------|--------|--------|-------|----------|--------|-----|-------|-------|------|----------|
| 2199F | GIVAUDAN CORPORATION | 2514708 | 1 | 404900 | 742020 | | 5.9 | 27 | 10 | 543 | GTRB | | 170 |
| 5006 | NEW JERSEY-AMERICAN WATER CO. | 4500250 | K-1 | 404427 | 742015 | | 5.3 | 13 | 12 | 135 | G05D | | 700 |
| 5040 | EAST ORANGE CITY | 2507102 | ORANGE BR 1 | 404430 | 742012 | S | 5.2 | 13 | 12 | 128 | GTRB | | 750 |
| 5040 | EAST ORANGE CITY | 2507112 | ORANGE BR 2 | 404521 | 742000 | S | 4.8 | 13 | 12 | 115 | GTRB | | 750 |
| 5074 | LIVINGSTON TOWNSHIP | 2520453 | 12 | 404634 | 741953 | S | 4.6 | 13 | 10 | 457 | GTRB | | 300 |
| 5114 | ESSEX FELS TOWNSHIP | 2500454 | 10 | 404940 | 741952 | F | 5.0 | 13 | 18 | 194 | GTRB | | 500 |
| 5114 | ESSEX FELS TOWNSHIP | 2500629 | 12 | 404903 | 741948 | S | 5.6 | 13 | 18 | 220 | GTRB | | 325 |
| 5040 | EAST ORANGE CITY | 2501713 | ORANGE BR 3 | 404540 | 741946 | S | 4.5 | 13 | 10 | 110 | GTRB | | 750 |
| 5074 | LIVINGSTON TOWNSHIP | 2516303 | 10 | 404707 | 741945 | S | 4.6 | 13 | 10 | 456 | GTRB | | 300 |
| 5040 | EAST ORANGE CITY | 2501714 | ORANGE BR 4 | 404558 | 741934 | S | 4.3 | 13 | 10 | 102 | GTRB | | 750 |
| 5040 | EAST ORANGE CITY | 2504475 | ORANGE BR 5 | 404609 | 741921 | S | 4.1 | 13 | 10 | 320 | GTRB | | 500 |
| 5074 | LIVINGSTON TOWNSHIP | 2501240 | 1 | 404813 | 741914 | S | 4.5 | 13 | 10 | 372 | GTRB | | 200 |
| 5074 | LIVINGSTON TOWNSHIP | 2501240 | 4 | 404708 | 741913 | S | 4.1 | 13 | 10 | 291 | GTRB | | 400 |
| 5074 | LIVINGSTON TOWNSHIP | 2500343 | 11 | 404748 | 741912 | S | 4.4 | 13 | 10 | 400 | GTRB | | 400 |
| 5074 | LIVINGSTON TOWNSHIP | 2500350 | 11 | 404904 | 741912 | S | 5.2 | 13 | 18 | 250 | GTRB | | 175 |
| 5040 | EAST ORANGE CITY | 2504486 | ORANGE BR 6 | 404605 | 741905 | S | 3.9 | 13 | 12 | 175 | GTRB | | 200 |
| 5114 | ESSEX FELS TOWNSHIP | 2500247 | 15 | 404931 | 741903 | S | 5.4 | 13 | 18 | 468 | GTRB | | 500 |
| 5114 | ESSEX FELS TOWNSHIP | 2502735 | 16 | 404931 | 741903 | S | 5.4 | 13 | 18 | 465 | GTRB | | 500 |
| 5074 | LIVINGSTON TOWNSHIP | 2500342 | 8 | 404824 | 741858 | S | 4.5 | 13 | 10 | 410 | GTRB | | 300 |
| 2523F | WOODLAND WEST ASSOC. | 2501122 | 1 | 404920 | 741855 | T | 5.2 | 13 | 18 | 305 | GTRB | | 125 |
| 5012 | NEW JERSEY-AMERICAN WATER CO. | 4500109 | KELLY A | 404248 | 741852 | | 5.4 | 39 | 17 | 85 | G05D | | 1250 |
| 5012 | NEW JERSEY-AMERICAN WATER CO. | 4500110 | KELLY B | 404248 | 741852 | | 5.4 | 39 | 17 | 85 | G05D | | 1250 |
| 5012 | NEW JERSEY-AMERICAN WATER CO. | 4500111 | KELLY C | 404248 | 741852 | | 5.4 | 39 | 17 | 85 | G05D | | 1042 |
| 5074 | LIVINGSTON TOWNSHIP | 2500105 | 2 | 404816 | 741850 | S | 4.3 | 13 | 10 | 384 | GTRB | | 200 |
| 5077 | ORANGE CITY | 2502233 | 5 | 404352 | 741831 | S | 4.3 | 13 | 12 | 104 | G05D | | 700 |
| 5114 | ESSEX FELS TOWNSHIP | 2504743 | 17 | 404948 | 741831 | S | 5.3 | 13 | 19 | 450 | GTRB | | 500 |
| 10157M | SAINT PETERS MEDICAL CENTER | 2502337 | 1 | 404542 | 741820 | | 3.3 | 13 | 10 | 819 | GTRB | | 120 |
| 5077 | ORANGE CITY | 4500169 | 2 | 404424 | 741810 | S | 3.7 | 13 | 12 | 113 | G05D | | 1000 |
| 5115 | ESSEX FELS TOWNSHIP | 4500205 | 8 | 404956 | 741803 | S | 3.5 | 13 | 12 | 76 | G05D | | 1400 |
| 10070M | INGULFAB PLASTICS INC. | 2502952 | #1 | 404924 | 741758 | T | 5.2 | 13 | 06 | 420 | GTRB | | 350 |
| 5077 | ORANGE CITY | 4500171 | 4 | 404449 | 741755 | S | 4.8 | 03 | 12 | 300 | G05D | | 225 |
| 5115 | ESSEX FELS TOWNSHIP | 4500204 | 7 | 404951 | 741755 | S | 3.3 | 13 | 12 | 94 | G05D | | 1390 |
| 5115 | ESSEX FELS TOWNSHIP | 4500206 | 9 | 404957 | 741752 | S | 5.1 | 13 | 05 | 95 | G05D | | 400 |
| 5115 | ESSEX FELS TOWNSHIP | 2501910 | 14 | 404957 | 741752 | S | 5.1 | 13 | 05 | 92 | GTRB | | 400 |
| 5115 | ESSEX FELS TOWNSHIP | 4500203 | 6 | 404928 | 741734 | S | 4.7 | 13 | 05 | 565 | G05D | | 300 |
| 5077 | ORANGE CITY | 2503701 | 6 | 404530 | 741730 | S | 2.6 | 13 | 22 | 132 | GTRB | | 1400 |
| 5115 | ESSEX FELS TOWNSHIP | 4500200 | 14 | 404953 | 741715 | S | 4.9 | 13 | 05 | 96 | G05D | | 300 |
| 5077 | ORANGE CITY | REHAY RIVER | | 404507 | 741702 | F | 2.1 | | | | S/RCH | | |
| 10237M | INTERNATIONAL PAINT (U.S.A.) | 2515901 | RM-1 | 404152 | 741700 | T | 5.4 | 39 | 19 | 30 | G05D | | 100 |
| 5115 | ESSEX FELS TOWNSHIP | 4500202 | 5 | 404900 | 741700 | U | 3.8 | 13 | 06 | 295 | GTRB | | 400 |
| 10025M | UNION TR. CO. OF ED. | 2502957 | #1 | 404312 | 741649 | T | 3.9 | 39 | 19 | 209 | GTRB | | 100 |
| 10049M | MAPLEWOOD COUNTRY CLUB | 2502816 | 1 | 404330 | 741645 | T | 3.6 | 13 | 11 | 60 | GTRB | | 500 |
| 5050 | ELIZABETHIAN WATER COMPANY | 4500039 | 1 | 404345 | 741645 | | 3.4 | 39 | 17 | 124 | GTRB | | 100 |
| 5050 | ELIZABETHIAN WATER COMPANY | 4500040 | 1A | 404345 | 741645 | | 3.4 | 39 | 17 | 138 | GTRB | | 250 |
| 5050 | ELIZABETHIAN WATER COMPANY | 4500041 | 2A | 404345 | 741645 | | 3.4 | 39 | 17 | 159 | GTRB | | 250 |
| 5050 | ELIZABETHIAN WATER COMPANY | 4500042 | 5A | 404345 | 741645 | | 3.4 | 39 | 17 | 140 | GTRB | | 150 |
| 5050 | ELIZABETHIAN WATER COMPANY | 4500043 | 5A | 404345 | 741645 | | 3.4 | 39 | 17 | 141 | GTRB | | 300 |
| 5050 | ELIZABETHIAN WATER COMPANY | 4500044 | 7 | 404345 | 741645 | | 3.4 | 39 | 17 | 420 | GTRB | | 100 |
| 5050 | ELIZABETHIAN WATER COMPANY | 4500045 | 7A | 404345 | 741645 | | 3.4 | 39 | 17 | 140 | GTRB | | 250 |
| 5050 | ELIZABETHIAN WATER COMPANY | 4500046 | 8A | 404345 | 741645 | | 3.4 | 39 | 17 | 130 | GTRB | | 150 |
| 5050 | ELIZABETHIAN WATER COMPANY | 4500047 | 9A | 404345 | 741645 | | 3.4 | 39 | 17 | 130 | GTRB | | 200 |
| 5050 | ELIZABETHIAN WATER COMPANY | 4500048 | 11 | 404345 | 741645 | | 3.4 | 39 | 17 | 162 | GTRB | | 100 |
| 5050 | ELIZABETHIAN WATER COMPANY | 4500049 | | 404345 | 741645 | | 3.4 | 39 | 17 | 200 | GTRB | | 100 |

| NUMBER | NAME | SOURCEID | LOCID | LAT | LON | LLACC | DISTANCE | COUNTY | MUN | DEPTH | GEO1 | GEO2 | CAPACITY |
|--------|--------------------------------|--------------|------------|--------|--------|-------|----------|--------|-----|-------|-------|------|----------|
| 5050 | ELIZABETHTOWN WATER COMPANY | 4600052 | 36 | 404345 | 741645 | | 3.4 | 39 | 17 | 200 | GTRB | | 100 |
| 5050 | ELIZABETHTOWN WATER COMPANY | 4600053 | 42 | 404345 | 741645 | | 3.4 | 39 | 17 | 200 | GTRB | | 125 |
| 5050 | ELIZABETHTOWN WATER COMPANY | 4600054 | 47 | 404345 | 741645 | | 3.4 | 39 | 17 | 200 | GTRB | | 125 |
| 5050 | ELIZABETHTOWN WATER COMPANY | 4600055 | 48 | 404345 | 741645 | | 3.4 | 39 | 17 | 200 | GTRB | | 100 |
| 5050 | ELIZABETHTOWN WATER COMPANY | 4600056 | 50 | 404345 | 741645 | | 3.4 | 39 | 17 | 200 | GTRB | | 150 |
| 5050 | ELIZABETHTOWN WATER COMPANY | 4600057 | 53R | 404345 | 741645 | | 3.4 | 39 | 17 | 107 | GTRB | | 100 |
| 5050 | ELIZABETHTOWN WATER COMPANY | 4600058 | 54 | 404345 | 741645 | | 3.4 | 39 | 17 | 98 | GTRB | | 250 |
| 5050 | ELIZABETHTOWN WATER COMPANY | 4600059 | 55 | 404345 | 741645 | | 3.4 | 39 | 17 | 103 | GTRB | | 500 |
| 5050 | ELIZABETHTOWN WATER COMPANY | 2604082 | LAYNE 3 | 404345 | 741645 | | 3.4 | 39 | 17 | 301 | GTRB | | 300 |
| 5050 | ELIZABETHTOWN WATER COMPANY | 2604083 | LAYNE 6 | 404345 | 741645 | | 3.4 | 39 | 17 | 303 | GTRB | | 200 |
| 5115 | ESSEX FIELDS TOWNSHIP | 4600201 | 2 | 404259 | 741629 | S | 3.6 | 13 | 21 | 40 | GOSD | | 150 |
| 5339 | RAHWAY, CITY OF | RAHWAY RIVER | | 404701 | 741627 | | 1.8 | 39 | 13 | | SYRAH | | 7000 |
| 2260P | ESSEX COUNTY, DEPT. OF PARKS | 2603045 | 1 | 404720 | 741619 | S | 1.9 | 13 | 22 | 72 | GOSD | | 420 |
| 5073 | SOUTH ORANGE TOWNSHIP | 2604546 | 20 | 404403 | 741615 | F | 2.8 | 13 | 19 | 200 | GTRB | | 175 |
| 5073 | SOUTH ORANGE TOWNSHIP | 2604550 | 21 | 404403 | 741615 | F | 2.8 | 13 | 11 | 196 | GTRB | | |
| 2266P | ROCK SPRING CLUB | 4600167 | 1 | 404555 | 741605 | F | 1.3 | 13 | 22 | 406 | GTRB | | 76 |
| 2266P | ROCK SPRING CLUB | 2601607 | 2 | 404555 | 741605 | F | 1.3 | 13 | 22 | 750 | GTRB | | 50 |
| 5073 | SOUTH ORANGE TOWNSHIP | 4600060 | 1 | 404425 | 741605 | U | 2.4 | 13 | 19 | 274 | GTRB | | 300 |
| 5073 | SOUTH ORANGE TOWNSHIP | 2600241 | 2 | 404425 | 741605 | T | 2.4 | 13 | 19 | 182 | GTRB | | 200 |
| 5073 | SOUTH ORANGE TOWNSHIP | 2600242 | 3 | 404425 | 741605 | T | 2.4 | 13 | 19 | 115 | GTRB | | 250 |
| 5073 | SOUTH ORANGE TOWNSHIP | 2600243 | 5 | 404425 | 741605 | T | 2.4 | 13 | 11 | 156 | GTRB | | 100 |
| 5073 | SOUTH ORANGE TOWNSHIP | 2600244 | 7 | 404425 | 741605 | T | 2.4 | 13 | 11 | 299 | GTRB | | 200 |
| 5073 | SOUTH ORANGE TOWNSHIP | 2600245 | 8 | 404425 | 741605 | T | 2.4 | 13 | 19 | 122 | GTRB | | 225 |
| 5073 | SOUTH ORANGE TOWNSHIP | 4600062 | 12 | 404425 | 741605 | U | 2.4 | 13 | 19 | 382 | GTRB | | 200 |
| 5073 | SOUTH ORANGE TOWNSHIP | 4600063 | 13 | 404425 | 741605 | U | 2.4 | 13 | 19 | 349 | GTRB | | 600 |
| 5073 | SOUTH ORANGE TOWNSHIP | 4600064 | 14 | 404425 | 741605 | U | 2.4 | 13 | 19 | 355 | GTRB | | 250 |
| 2266P | ROCK SPRING CLUB | LAKE | | 404605 | 741559 | S | 1.2 | 13 | 22 | | GTRB | | 500 |
| 4033FS | ESSEX COUNTY COUNTRY CLUB | POND | | 404703 | 741545 | T | 1.4 | 13 | 22 | | SY | | |
| 5073 | SOUTH ORANGE TOWNSHIP | 2603643 | 15 | 404452 | 741542 | F | 1.8 | 13 | 19 | 500 | GTRB | | |
| 5073 | SOUTH ORANGE TOWNSHIP | 4600061 | 16 | 404500 | 741535 | T | 1.6 | 13 | 19 | 304 | GTRB | | 400 |
| 5073 | SOUTH ORANGE TOWNSHIP | 2602780 | 15 | 404503 | 741534 | F | 1.5 | 13 | 19 | 200 | GTRB | | 450 |
| 10154W | NJ TRANSIT BUS OPERATIONS INC. | 2601253 | #1 | 404323 | 741506 | T | 3.3 | 13 | 11 | 600 | | | 115 |
| 2259P | MONTECLAIR GOLF CLUB | 2615029 | 5 | 404919 | 741505 | F | 3.6 | 13 | 22 | 75 | GOSD | | 225 |
| 5073 | SOUTH ORANGE TOWNSHIP | 2602401 | 17 | 404440 | 741505 | T | 1.8 | 13 | 19 | 343 | GTRB | | 400 |
| 5073 | SOUTH ORANGE TOWNSHIP | 2602369 | 16 | 404416 | 741504 | F | 2.2 | 13 | 19 | 350 | GTRB | | 450 |
| 2259P | MONTECLAIR GOLF CLUB | 4600163 | 1 | 404900 | 741455 | F | 3.2 | 13 | 22 | 300 | GTRB | | 225 |
| 2259P | MONTECLAIR GOLF CLUB | 4600164 | 2 | 404900 | 741455 | F | 3.2 | 13 | 22 | 360 | GTRB | | 25 |
| 2259P | MONTECLAIR GOLF CLUB | 4600165 | 3 | 404900 | 741455 | F | 3.2 | 13 | 22 | 300 | GTRB | | 125 |
| 2259P | MONTECLAIR GOLF CLUB | 2602883 | 4 | 404925 | 741420 | F | 3.7 | 13 | 20 | 500 | GTRB | | 150 |
| 5077 | ORANGE CITY | 2603440 | 7 | 404534 | 741409 | S | 0.9 | 13 | 17 | 551 | GTRB | | 350 |
| 2056P | ATLAS TOOL COMPANY, INC. | 2601171 | | 404204 | 741405 | | 4.8 | 39 | 07 | 138 | GTRB | | 200 |
| 2056P | ATLAS TOOL COMPANY, INC. | 2602079 | | 404204 | 741405 | | 4.8 | 39 | 07 | 300 | GTRB | | 200 |
| 2107P | TUSCAN DAIRY FARMS INC | 4600102 | 1 | 404221 | 741401 | | 4.5 | 39 | 19 | 300 | GTRB | | 250 |
| 2107P | TUSCAN DAIRY FARMS INC | 2604896 | 2 | 404221 | 741401 | | 4.5 | 39 | 19 | 620 | GTRB | | 350 |
| 5077 | ORANGE CITY | 2604444 | 9 | 404613 | 741343 | F | 0.9 | 13 | 17 | 506 | GTRB | | 500 |
| 5077 | ORANGE CITY | 2604322 | 8 | 404648 | 741330 | S | 1.2 | 13 | 17 | 500 | GTRB | | 600 |
| 2106P | JERSEY PLASTIC MOLDERS, INC. | 2604722 | 2 | 404301 | 741322 | | 3.8 | 13 | 09 | 330 | GTRB | | 320 |
| 10561W | HYNE'S | 2600118 | 2 | 404852 | 741312 | F | 3.3 | 13 | 13 | 350 | GTRB | | 175 |
| 2184P | MOUNTAINSIDE HOSPITAL | 2604827 | 2 | 404900 | 741242 | U | 3.6 | 13 | 13 | 402 | GTRB | | 250 |
| 5245 | MONTECLAIR TOWN | 2603658 | GLENFLD #2 | 404551 | 741242 | F | 3.5 | 13 | 13 | 300 | GTRB | | 600 |
| 5245 | MONTECLAIR TOWN | 2603687 | RAND W. #1 | 404822 | 741237 | S | 3.1 | 13 | 13 | 300 | GTRB | | 400 |
| 2184P | MOUNTAINSIDE HOSPITAL | 2602296 | 1 | 404845 | 741218 | U | 3.6 | 13 | 13 | 400 | GTRB | | 350 |
| 5250 | GLEN RIDGE WATER DEPT. | 2604827 | 2 | 404847 | 741210 | S | 3.7 | 13 | 08 | 400 | GTRB | | 300 |
| | | | 1 | 404704 | 741157 | | 2.6 | 13 | 02 | 478 | GTRB | | 180 |

| NUMBER | NAME | SOURCEID | LOCID | LAT | LONG | LLACC | DISTANCE | COUNTY | NUN | DEPTH | GE01 | GE02 | CAPACITY |
|--------|-------------------------------|----------|-------|--------|--------|-------|----------|--------|-----|-------|-------|------|----------|
| 2267P | GLEN RIDGE COUNTRY CLUB | 4600169 | 3 | 404929 | 741141 | F | 4.6 | 13 | 08 | 400 | GTRB | | 10 |
| 2267P | GLEN RIDGE COUNTRY CLUB | 2601852 | 1 | 404922 | 741132 | S | 4.6 | 13 | 02 | 353 | GTRB | | 400 |
| 5179 | BLOOMFIELD TOWN | 2604763 | 1 | 404900 | 741130 | T | 3.5 | 13 | 02 | 380 | GTRB | | 330 |
| 2048P | NATIONAL STARCH & CHEMICAL | 2604314 | 1 | 404758 | 741122 | T | 3.5 | 13 | 02 | 410 | GTRB | | 200 |
| 10195W | COLUMBUS HOSPITAL | 2604664 | #1 | 404622 | 741110 | T | 3.1 | 13 | 14 | 354 | GTRB | | 160 |
| 2354P | ESSEX COUNTY DEPT. OF PARKS | 2604994 | 2 | 404645 | 741110 | T | 3.1 | 13 | 14 | 450 | GTRB | | 180 |
| 2268P | FOREST HILL FIELD CLUB | FOFD | | 404608 | 741051 | F | 4.0 | 13 | 02 | 14 | SFLOW | | 1200 |
| 2268P | FOREST HILL FIELD CLUB | 2604258 | 1 | 404749 | 741041 | S | 3.9 | 13 | 02 | 238 | GTRB | | 60 |
| 2354P | ESSEX COUNTY DEPT. OF PARKS | 4600216 | 1 | 404637 | 741035 | S | 3.6 | 13 | 14 | 200 | GTRB | | 240 |
| 2262P | UPPER MONTCLAIR COUNTRY CLUB | 2604825 | 3 | 405030 | 741020 | T | 6.2 | 31 | 02 | 300 | GTRB | | 60 |
| 10672W | ROCHE DIAGNOSTIC SYSTEM | 4600229 | 1 | 404718 | 741018 | | 4.0 | 13 | 01 | 602 | GTRB | | 60 |
| 10672W | ROCHE DIAGNOSTIC SYSTEM | 4600230 | 2 | 404718 | 741018 | | 4.0 | 13 | 01 | 610 | GTRB | | 200 |
| 10555W | NEW JERSEY BELL TELEPHONE | 2603173 | 1 | 404433 | 741015 | | 4.3 | 13 | 14 | 215 | GTRB | | 90 |
| 2233P | HOFFMANN-LAROCHE INC. | 4600156 | 32 | 405015 | 740927 | F | 6.5 | 31 | 02 | 650 | GTRB | | 260 |
| 2247P | SETON COMPANY - LEATHER DIV. | 2604969 | 5 | 404631 | 740927 | F | 4.6 | 13 | 14 | 400 | GTRB | | 500 |
| 2247P | SETON COMPANY - LEATHER DIV. | 4600162 | 4 | 404633 | 740926 | F | 4.6 | 13 | 14 | 200 | GTRB | | 200 |
| 2247P | SETON COMPANY - LEATHER DIV. | 4600160 | 2 | 404637 | 740925 | F | 4.6 | 13 | 14 | 300 | GTRB | | 200 |
| 2247P | SETON COMPANY - LEATHER DIV. | 4600161 | 3 | 404635 | 740925 | F | 4.6 | 13 | 14 | 250 | GTRB | | 75 |
| 2247P | SETON COMPANY - LEATHER DIV. | 2604968 | 6 | 404642 | 740922 | F | 4.7 | 13 | 14 | 400 | GTRB | | ~100 |
| 2233P | HOFFMANN-LAROCHE INC. | 4600155 | 20 | 405000 | 740919 | F | 6.4 | 13 | 15 | 402 | GTRB | | 100 |
| 2233P | HOFFMANN-LAROCHE INC. | 4600157 | 33 | 405003 | 740915 | F | 6.5 | 31 | 02 | | GTRB | | 165 |
| 2233P | HOFFMANN-LAROCHE INC. | 4600158 | 37 | 404958 | 740907 | F | 6.5 | 31 | 02 | 720 | GTRB | | 300 |
| 2073P | VAN DYK MALLINGROOT SPECIALTY | 4600092 | 1 | 404700 | 740900 | T | 5.0 | 13 | 01 | 352 | GTRB | | 100 |
| 2073P | VAN DYK MALLINGROOT SPECIALTY | 4600093 | 2 | 404700 | 740900 | T | 5.0 | 13 | 01 | 400 | GTRB | | 150 |
| 2073P | VAN DYK MALLINGROOT SPECIALTY | 2605113 | 3 | 404700 | 740900 | T | 5.0 | 13 | 01 | 400 | GTRB | | 150 |

Number of Observations: 137

ATTACHMENT A

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
HAZARDOUS WASTE INSPECTION REPORT

DWM-029

GENERATOR INSPECTION REPORT

FACILITY INFORMATION

FACILITY NAME: Selecto-Flash
FILE NUMBER: 07-22-25
VHT FACILITY FILE NUMBER: _____
PERMIT #: _____
REGION: Metro
INSPECTION DATE: 7-24-90
INCIDENT/CASE NUMBER: N/A
INSPECTION TYPE: Generator - I B
RESPONSIBLE AGENCY CODE: State
INSPECTOR'S NAME: Eddie L. Davis JR
INSPECTOR'S AGENCY: MTDEP
INSPECTOR'S BUREAU: BEO-M DHWM
EPA ID NUMBER: MTD002148799
ADDRESS: 18 Central Ave
West Orange N.J. 07052
LOT: 9, 36 + 8 BLOCK: 9
COUNTY: Essex
FACILITY PERSONNEL: Martin G. Spangle
Frank Russin
TELEPHONE #: (201) 677-3500
OTHER STATE/EPA PERSONNEL: N/A
REPORT PREPARED BY: Eddie L. Davis JR
REVIEWED BY: MTDEP
DATE OF REVIEW: 7/31/90

REVISION: 3
01/88

JUL 31 1990
ATTACHMENT 1

TIME IN: _____

TIME OUT: _____

PHOTOS TAKEN ☐ YES ☒ NO

IF YES, HOW MANY? _____

SAMPLE TAKEN ☐ YES ☒ NO

NO. OF SAMPLES _____

NJDEP SAMPLE ID#: _____

MANIFESTS REVIEWED ☒ YES ☐ NO

Number of manifests in compliance All but 3 w/o Low Ben notification

Number of manifests not in compliance 0

List manifest document numbers of those manifests not in compliance.

-A1-

SUMMARY OF FINDINGS**FACILITY DESCRIPTION AND OPERATIONS:**

Tuesday July 24, 1990 a RIBA Generator inspection was conducted at Soloto-Fish Inc. 18 Central Ave. in West Orange, N.J. The facility was represented by Martin Spangle - Production Manager and Frank Bresson - Corporate Control.

Soloto-Fish prints elect decals for Tractor Trailers and other vehicles. This establishment employs approximately 50-60 people and operates on one eight hour shift six days a week.

Soloto-Fish decal operation begins in the art room. Here the decal ideas are drawn by engineers and made into positive and negative images. From the art room the positive and negative images are placed on screens and the images are made into silk screens. The images are burned into the screen with ultra violet light. After the image has been burned using the UV light, the screens are washed with water and haze remover to prevent a ghost effect. From the wash room the screens are allowed to dry and then placed on one of the nine (9) presses.

-A2-

SUMMARY OF FINDINGSFACILITY DESCRIPTION AND OPERATIONS (continued):

For direct reproduction, the image is reproduced with various colored inks which are silk screened onto paper, plastic, etc. After the images have been reproduced to the quantity desired the screens are removed from the press and wiped down and rinsed with a solution called vinyl wash. The wash solution is caught in a metal trough along with the inks which are removed from the screens. The hazardous waste generated from the operation is a direct result of screen washing. The vinyl wash - Lacquer thinner is composed of Toluene, Isopropyl Alcohol and Methyl Isobutyl Ketone. This waste is collected from the troughs and placed in 55 gallon drums and classified as F003, F005 waste. The wash waters generated while washing the screens with the haze remover are discharged to the sewer system. The facility has authorization to discharge wash water thru Joint Meeting. No other hazardous waste is generated at the facility.

ATTACHMENT A-4

-A3-

SUMMARY OF FINDINGS**FACILITY DESCRIPTION AND OPERATIONS (continued):**

The problems observed during this inspection consist of the following:

132AC 726-9.4(d)5 - Facility Failed to conduct daily inspection of container storage area

132AC 726-9.3(a)3 - Failed to mark accumulation start date on containers (Facility had no hazardous waste labels or markings on any of the 5 containers on site containing hazardous waste)

132AC 726-9.4(g)1-2 - Failed to conduct personnel training and documentation of training

132AC 726-9.6(F)1 - Failed to familiarize local authorities with layout of the facility and hazardous waste handled.

132AC 726-9.6(F)4 - Failed to familiarize local hospitals with the properties of hazardous waste handled at the facility.

132AC 726-9.7 - No Contingency Plan and Emergency Procedures

Selecta-Flash given till Aug 29, 1990 to meet compliance with the above mentioned violations.

Permit: No air permit required.

Authorized to discharge water thru Joint Meeting

History: See attachment (next 2 pages)

ATTACHMENT

45

-B-

Describe the activities that result in the generation of hazardous waste.

Silk Screens are washed with solution called
Nyl Wash - Lacquer thinner composed of Toluene
Isopropyl Alcohol and Methyl Isobutyl Ketone.
The waste liquid is a result of the washing.

Identify the hazardous waste located on site, and estimate the approximate quantities of each. (Identify Waste Codes)

5- 55 gallon drums of FOD3 all five drums
labeled.

ATTACHMENT B

11

Site Evaluation Submission
for
Selecto-Flash, Inc.

ECRA Case No. 86-935
DRAI Job NO. 86C367

prepared for

Selecto-Flash, Inc.
West Orange, New Jersey 07052

prepared by

Dan Raviv Associates, Inc.
5 Central Avenue
West Orange, New Jersey

December 1986

ATTACHMENT ^{B-1}

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
HAZARDOUS SITE MITIGATION ADMINISTRATION
BUREAU OF INDUSTRIAL SITE EVALUATION

ENVIRONMENTAL CLEANUP RESPONSIBILITY ACT (ECRA)

APPLICATION FOR ECRA REVIEW
INITIAL NOTICE

SITE EVALUATION SUBMISSION (SES)

This is the second part of a two-part application submittal and must be submitted within 30 days following public release of the decision to close operations or execution of an agreement of sale or option to purchase.

DATE 1/9/87

NAME OF INDUSTRIAL ESTABLISHMENT Selecto-Flash, Inc.

ADDRESS 18 Central Avenue

CITY OR TOWN West Orange

ZIP CODE 07052

MUNICIPALITY West Orange

COUNTY Essex

NAME OF PROPERTY OWNER Selecto-Flash, Inc.

FIRM: Selecto-Flash, Inc.

ADDRESS 18 Central Avenue

CITY OR TOWN: West Orange

ZIP CODE: 07052

MUNICIPALITY West Orange

COUNTY Essex

SUBMIT THE ORIGINAL PLUS TWO COPIES OF THE FOLLOWING:

(NOTE: ITEM FOURTEEN (14) REQUIRES THREE COPIES)

9. A scaled site map identifying all areas where hazardous substances or wastes have been or currently are generated, manufactured, refined, transported, treated, stored, handled or disposed, above or below ground.

IS THIS MAP ENCLOSED? ☒ YES (See Appendix Figure 9.1) ☐ NO

10. A detailed description of the most recent operations and processes at the industrial establishment organized in the form of a narrative report designed to guide the Department step-by-step through a plant evaluation, with particular emphasis on areas of the process stream where hazardous substances and wastes are generated, manufactured, refined, transported, treated, stored, handled or disposed on site, above or below ground. Also identify any floor drains with their points of discharge, septic systems if applicable, seepage pits and dry wells. Please note that establishments which ceased production prior to December 31, 1983, but are subject to ECRA because of on-going storage beyond that date, must provide details on past operations.

IS THIS REPORT ENCLOSED? ☒ YES (See Appendix Figure 10.1, 10.2) ☐ NO

IF YOU HAVE CHECKED "NO", STATE THE REASON(S):

ATTACHMENT

FOR DEP USE ONLY

Notice No. 2-1

☒ YES (See Appendix # _____) ☐ NO See Item #11

IF YOU HAVE CHECKED "NO", STATE THE REASON(S): _____

☒ YES (See Appendix # _____) ☐ NO See Item #11.B

IF YOU HAVE CHECK "NO", STATE THE REASON(S): _____

[illegible]

13. A. A detailed description, date and location on a scaled map of any known spill or discharge of hazardous substances or wastes that occurred during the historical operation of the site and a detailed description of any remedial actions undertaken to handle any spill or discharge of hazardous substances or wastes. (Attach additional sheets if necessary.)

IS THIS INFORMATION ENCLOSED? ☒ YES (See Appendix # _____) ☐ NO See Item #13

IF YOU HAVE CHECKED "NO", STATE THE REASON(S): _____

ARE THE SPILLS IDENTIFIED ABOVE INDICATED ON THE SCALED SITE MAP? ☐ YES ☒ NO

IF YOU HAVE CHECKED "NO", STATE THE REASON(S): Item #14; Area of Concern #2, incorporated
area where minor staining was observed.

13. B. If this facility has an approved Spill Prevention Control and Countermeasure Plan (SPCC), enclose a copy with this submittal.

IS YOUR SPCC PLAN ENCLOSED? ☐ YES (See Appendix # _____)
☒ NO, this facility is not required to have an SPCC plan

14. A. A detailed sampling or other environmental evaluation measurement plan which includes proposed soil, groundwater, surface water, surface water sediment, and air sampling determined appropriate for the site. (This sampling plan must be developed in conformance with ECRA Regulations N.J.A.C. 7:1-3.14 et seq., and Quality Assurance Guidelines as developed by DEP)

ARE THREE COPIES OF THE SAMPLING PLAN ENCLOSED? ☒ YES (See Appendix # _____)
☐ NO Figures 14.1, 14.2

IF YOU HAVE CHECKED "NO", STATE THE REASON(S): _____

14. B. If the sampling plan includes groundwater sampling and/or the installation of monitoring wells, the applicant must complete a "Request for Hydrogeologic Assessment" form (blank form attached).

IS GROUNDWATER SAMPLING PROPOSED? ☐ YES ☒ NO

IS THE "REQUEST FOR HYDROGEOLOGIC ASSESSMENT" FORM ATTACHED? ☐ YES (See Appendix # _____)
☒ NO

ATTACHMENT 24

IF YOU HAVE CHECKED "NO", STATE THE REASON(S): There is no evidence to suggest
ground water contamination has occurred.

5. A detailed description of the procedures to be used to decontaminate and/or decommission equipment and buildings involved with the generation, manufacture, refining, transportation, treatment, storage, handling, or disposal of hazardous wastes or substances including the name and location of the transporter, the ultimate disposal facility, and any other organizations involved.

IS THE DETAILED DESCRIPTION ENCLOSED? ☐ YES (See Appendix # _____) ☒ NO

IF YOU HAVE CHECKED "NO", STATE THE REASON(S): Operations to remain unchanged. Should
investigations determine that contamination at concentrations greater than ECRA action
levels are present at the investigation site, cleanup will be addressed as Item #15.

16. Copies of all previous soil, groundwater and surface water sampling results, including effluent quality monitoring, conducted at the site of the industrial establishment during the history of ownership/operation by the owner or operator. Also include a detailed description of the location, collection, chain of custody, methodology, analyses, laboratory, quality assurance/quality control procedures, and other factors involved in preparation of the sampling results.

ARE HISTORICAL RESULTS ENCLOSED? ☐ YES (See Appendix # _____) ☒ NO

IF YOU HAVE CHECKED "NO", STATE THE REASON(S): No previous analytical data.

List any other information you are submitting or which has been formally requested by this agency:

I hereby certify that the information furnished on this application and any attachments is true. I am aware that false swearing is a crime in this State. I am cognizant that providing false information is a violation under CRA and that I may be personally liable for penalties up to \$25,000 per day.

1/9/87

Date

James Z. Peepas
 Signature

JAMES Z. PEEPAS

Name (Print or Type)

PRESIDENT

Title

ATTACHMENT 001

Item #9

General Site Description
(Figure 9.1)

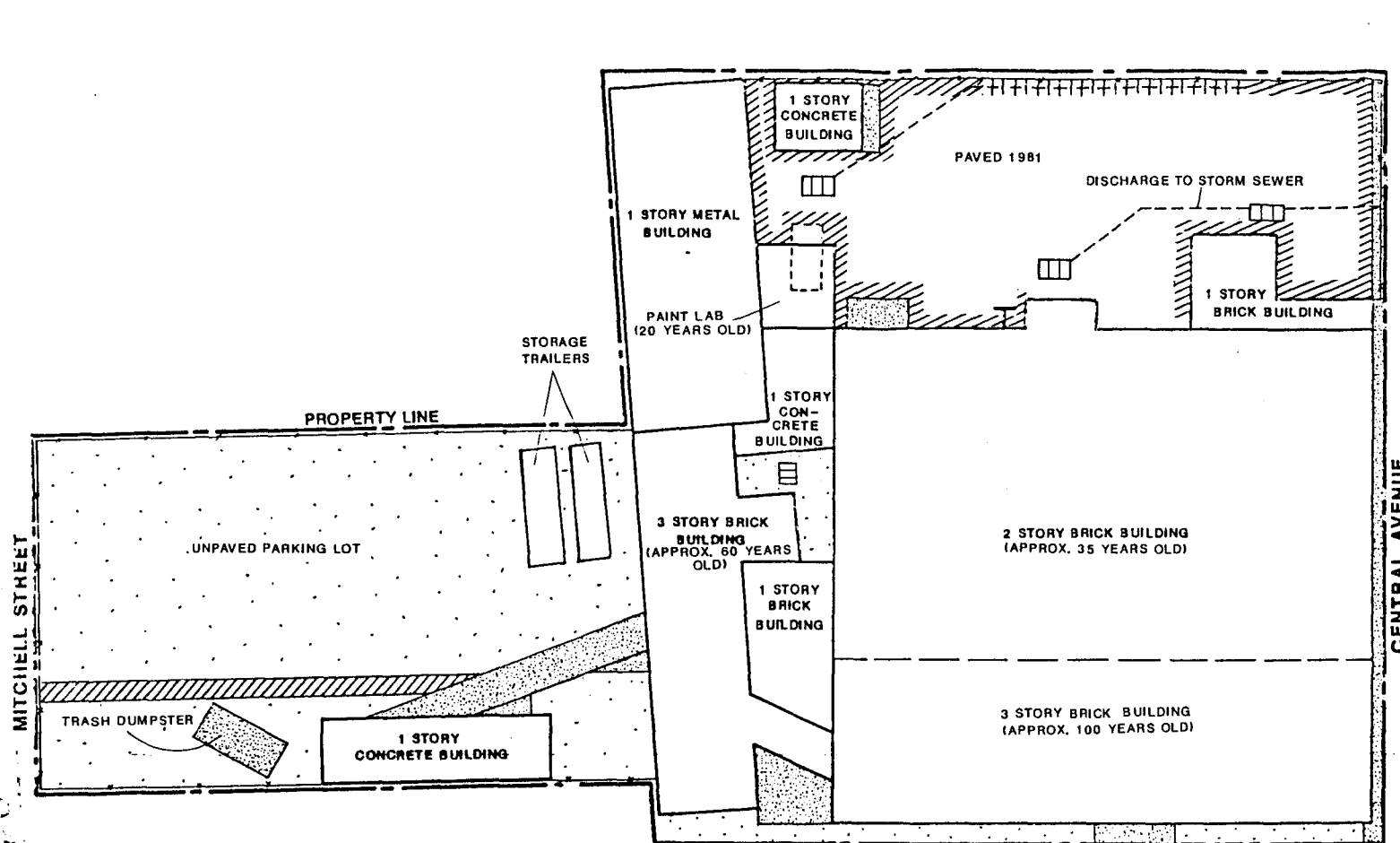
Item #9 - General Site Description (Figure 9.1)

Selecto-Flash is housed in a multi-building complex located on Block 7 and 9 and Lot #35,40,8,9 and 12, West Orange, New Jersey. The actual age of the buildings is unknown, however, it is believe that the 3-story brick building was originally constructed approximately 100 years ago. A 2-story addition was added approximately 30 years ago and various other additions to the building were constructed from between 20 to 40 years ago. An asphalt parking lot located west of the building was paved in approximately 1981.

A transformer owned by the local power authority is located in the paved lot west of the building. To the south in an unpaved yard are two 40 foot trailers, which are used for the storage of non-chemical inventory.

The premises are serviced by city water and sewer. Heat for the building was originally supplied by oil-fired boilers. Conversion to gas took place at a point prior to the occupancy of Selecto-Flash. A 10,000-gallon underground oil storage tank, which is no longer in use is located beneath the paved parking lot west of the building. Approximately 20 years ago, the addition which houses the paint lab was constructed over the location of the underground storage tank. In 1980, when Selecto-Flash took possession of the premises the empty underground storage tank was filled with water as a ballast. Details of the testing to determine the tank's integrity are provided in Item #14.

Selecto-Flash's operations includes silk screen printing and have remained unchanged since 1980. The previous owner of the property, Bates Manufacturing Company, was engaged in the manufacture of stapling machines.



EXPLANATION

- FENCE
- TRANSFORMER LOCATION
- 10,000 GALLON UNDERGROUND OIL TANK
- PAVED AREA
- UNPAVED AREA
- CATCH BASIN
- CONCRETE SIDEWALK
- UNDERGROUND PIPE AND FRENCH DRAIN

NOTE: UNLESS STATED, ADDITIONS WERE CONSTRUCTED APPROXIMATELY 50 YEARS AGO

0 30'
APPROXIMATE SCALE

Dan Raviv Associates, Inc.
5 Central Avenue, West Orange, NJ 07052

GENERAL SITE PLAN AND
APPROXIMATE CONSTRUCTION DATES

SELECTO-FLASH, INC.
WEST ORANGE, NJ.

| | |
|--------------------|--------------------|
| Prepared By ET/ODL | Date NOVEMBER 1986 |
| Job No. 36C367 | Figure 3.1 |

2-8

Item #10 - Description of Operations (Figure 10.1 and 10.2)

First Floor (Figure 10.1)

Area 1

Housed on the first floor of the two-story brick building is the printing and screen cleaning operations. Three printing units are located on the main floor. Each printer is comprised of a printing unit, a drying line and stacker. Located at each printing station is a one-gallon container of vinyl wash solvent. Chemicals used on an occasional basis are provided in Item #11.

After use in the printing department excess ink is removed from the screens and reclaimed. The screens are then sent to the screen cleaning washer where they are cleaned with a cleaning fluid. Waste solution from the screen washing is collected in steel drums for ultimate shipment to a reclaimer.

As depicted in Figure 10.1, the floor drain in this area discharges to the sanitary sewer.

Area 2

Located on the first floor of the three-story brick building is the finishing department. Art work is received in the finishing department where it is cut in the thermo or steel ruled dye pressers. Following cutting the product is sent to the pre-masking area where it is laminated. A small quantity of vinyl wash "M" is located here.

Area 3

Operations in the photo developing department include the exposure of photosensitive aluminum plates, the developing of these plates and finally their sealing. Chemical substances used in the photo developing department include Fotofoil "M" Universal Fixer, Fotofoil "M" Developer, Fotofoil "M" Fixer and Fotofoil Additive.

Three floor drains found within the photo developing and boiler room drain into the near catch basin. The catch basin (Figure 10.1) ultimately discharges to the storm sewer.

Area 4

A 144 inch printing press used for special orders is located in the one-story metal building. Operations in this area are similar to those perform in area 1. A one-gallon container of vinyl wash solvent is present here. In addition, the chemicals used on occasion for special assignments are listed in Item #11. No screen cleaning takes place here, screens which need to be cleaned are transported to the screen cleaning washer located in area 1.

Paint and Solvent Storage Building

Located in the paved parking lot west of the building is a one-story masonry storage building provided with ventilation and sprinkler system.

Item #11

Description and Location of Storage Vessels

ATTACHMENT B-10

Item #11 - Description and Location of Storage Vessels

The paint and solvent shed provides storage for the majority of chemical substances stored on site. Waste liquids are stored in 55-gallon drums on a concrete pad located north of the paint and solvent shed. Generally, no more than 6 drums are present at one time.

A complete inventory of chemical substances handled at the facility are listed by chemical name, storage location, quantity and are provided on Table 12.A. The following is a list of the maximum quantities of chemical substances which may be found in work areas during a typical weekly production run. Departmental descriptions with area designation numbers are discussed in Item #10 and are depicted on Figure 10.1 and 10.2.

| <u>Department</u> | <u>Area Designation</u> | <u>Chemical Substances</u> | <u>Quantity (gal).</u> |
|---------------------------------|-------------------------|---|----------------------------|
| Printing and Screen Cleaning | Area 1 | SS VYL SPECIAL THINNER | 1 |
| | | JVS THINNER | 1 |
| | | PVS THINNER | 1 |
| | | UV 3 | 0.5 |
| | | VINYL WASH M | 10 |
| | | (METYL ISO BUTHYL KETONE, TOLULENE ISO PROPYL ALCOHOL | |
| | | SOLVESSO 150 | 0.5 |
| | | HGXE 970 | 0.5 |
| | | HGXE 960 | 0.5 |
| | | SS9626 | 7.5 |
| | | (BUTYLCELLUSOLVE) | |
| | | ISOPROPYL ALCOHOL | 0.5 |
| | | CYCLOHEXANONE | 0.5 |
| | | 9600 RETARDER | 0.5 |
| | | HGV THINNER | 1 |
| | | HGD RETARDER | 1 |
| | | SS67020 | 0.5 |
| | | ISOPHORONE | 1 |
| | | XYLENE | 1 |
| | | 711 THINNER | .5 |
| | | T-11 THINNER | 1 |
| Finishing | Area 2 | VINYL WASH "M" | .25 |
| Photo Developing | Area 3 | FOTOFOIL M SEALING ADDITIVE | 1 |
| | | FOTOFOIL M FIXER | 0.5 |
| | | FOTOFOIL M DEVELOPER | 0.5 |
| | | AMMONIUM THIOCYANATE | 0.5 |

| <u>Department</u> | <u>Area Designation</u> | <u>Chemical Substances</u> | <u>Quantity (gal).</u> |
|---|-------------------------|----------------------------|----------------------------|
| 144 Inch Printer | Area 4 | VINYL WASH "M " | 2 |
| | | SOLVesso 150 | 0.5 |
| | | HGXE 970 | 0.5 |
| | | HGXE 960 | 0.5 |
| | | SS59626 | 4 |
| | | CYCLOHEXANONE | 0.5 |
| | | HGV THINNER | 1 |
| | | HGD RETARDER | 0.5 |
| | | SS67020 | 1 |
| | | ISO PHORONE | 1 |
| | | XYLENE | 1 |
| | | 711 THINNER | .5 |
| | | T-11 THINNER | 1 |
| Sheeting Department and Second Floor Printing | Area 5 | VINYL WASH "M" | 1 |
| Screen Prep Department | Area 6 | VINYL WASH "M" | 5 |
| Art Department | Area 7 | HAND DEVELOPER | 1 |
| | | N-PROPANOL | 1 |
| | | RUBBER CEMENT THINNER | 1 |
| | | AMMONIUM HYDROXIDE | 1 |

Item #11.B

Integrity of Underground Storage Tanks

ATTACHMENT B-12

Item #11.B - Integrity of Underground Storage Tanks

The 10,000-gallon steel underground storage tank as discussed in Item #9 and depicted on Figure 9.1, will be investigated to determine integrity and whether leakage may have occurred.

At some point, prior to 1980 conversion from oil to gas heat took place. Selecto-Flash took possession of the investigation site in 1980 at which time conversion of the heating system had already taken place. At the time of initial occupancy, no oil remained in the underground storage tank. This tank was then filled with water by Selecto-Flash management.

On November 24, 1986, the water from the underground storage tank was removed by A1 Tank Cleaning Service of 11 Mt. View Street, West Orange, New Jersey. Manifests for this material are provided as Attachment 11.1.

Arrangements have been made with Direct Environmental of Wilson Avenue, Newark, New Jersey to squeegee clean the inside and to provide access ports through which soil samples will be collected.

Since the underground storage tank is presently located under the paint shed, it would be impossible to complete borings in the immediate vicinity of the tank for the purpose of soil investigation. It is proposed that following the cleaning of the underground storage tank, samples will be collected through the bottom of the tank. This sampling methodology is discussed in Item #14 - Proposed Sampling Plan.

Attachment 11.1

Al Tank Cleaning
Waste Manifest



Department of Environmental Protection
Division of Waste Management
CN 028, Trenton, NJ 08625

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2000-0404. Expires 7-31-06

| UNIFORM HAZARDOUS WASTE MANIFEST | | 1. Generator's US EPA ID No. | 2. Page 1 of 1 | Information in the shaded areas is not required by Federal law. | |
|---|--|--|--|---|--|
| 3. Generator's Name and Mailing Address A-1 Tank Cleaning Service 11 Mt. View St. West Orange, N.J. 07052 | | 4. Generator's Phone (201) 736-5020 | A. State Manifest Document Number: NJA0221082 | | B. State Gen. ID |
| 5. Transporter 1 Company Name A-1 Tank Cleaning Service | | 6. US EPA ID Number NJ0098579028 | C. State Transporter 1 ID EJSW15829810 | | D. Transporter's Phone (201) 736-5020 |
| 7. Transporter 2 Company Name | | 8. US EPA ID Number | E. State Transporter 2 ID | | F. Transporter's Phone |
| 9. Designated Facility Name and Site Address P & L Oil Corp 472 Freelinghysen Ave Greenville, S.C. 29615 | | 10. US EPA ID Number NJ0094981335 | G. State Facility's ID | | H. Facility's Phone (201) 824-9527 |
| 11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) | | 12. Containers No. | 13. Type | 14. Total Quantity | 15. Waste No. |
| a. waste oil NOS combustible liquid N/A 1270 | | 001 | T2 | 2500 G | X722 |
| b. | | | | | |
| c. | | | | | |
| d. | | | | | |
| 16. Additional Descriptions for Wastes Listed Above | | Handling codes for Wastes Listed Above | | | |
| a. | | b. | | | |
| c. | | d. | | | |
| 17. Special Handling Instructions and Additional Information Selecto - Flash C-1000 HVC Orange N.J. | | | | | |
| 18. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this manifest are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in proper condition for transport by highway according to applicable international and national government regulations, and all applicable state laws and regulations. Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. | | | | | |
| Printed/Typed Name STEVEN LEE | | Signature [Signature] | | Date Month Day Year 11 2 05 | |
| 19. Transporter 1 Acknowledgement of Receipt of Materials | | | | | |
| Printed/Typed Name STEVEN LEE | | Signature [Signature] | | Date Month Day Year 11 2 05 | |
| 20. Transporter 2 Acknowledgement of Receipt of Materials | | | | | |
| Printed/Typed Name | | Signature | | Date Month Day Year | |
| 21. Discrepancy Indication Space [Handwritten: Not Discrepancy] | | | | | |
| 22. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. | | | | | |
| Printed/Typed Name Tony Buccino | | Signature [Signature] | | Date Month Day Year 11 2 05 | |



State of New Jersey
Department of Environmental Protection
Division of Waste Management
CN 028, Trenton, NJ 08625

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2000-0404. Expires 7-31-86

| UNIFORM HAZARDOUS WASTE MANIFEST | | 1. Generator's US EPA ID No | 2. Page 1 of 1 | Information in the shaded areas is not required by Federal law.* | |
|--|--|---|--|--|--|
| 3. Generator's Name and Mailing Address A-1 Tank Cleaning Service 11 Mt. View St., West Orange, N.J. 07052 | | 4. Generator's Phone (201) 736-5020 | A. State Manifest Document Number NJA0221084 | | B. State Gen. ID |
| 5. Transporter 1 Company Name A-1 Tank Cleaning Service | | 6. US EPA ID Number NJ0095679028 | C. State Transporter 1 ID NJ0095679028 | | D. Transporter's Phone (201) 736-5020 |
| 7. Transporter 2 Company Name | | 8. US EPA ID Number | E. State Transporter 2 ID | | F. Transporter's Phone |
| 9. Designated Facility Name and Site Address B & L Oil Corp. 472 Brelinghuysen Ave. Newark, N.J. 07114 | | 10. US EPA ID Number NJ0064081986 | G. State Facility's ID | | H. Facility's Phone (201) 824-9527 |
| 11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) | | 12. Containers | 13. Total Quantity | 14. Unit | 15. Waste No. |
| a. Waste oil, non combustible liquid, N/A 1.70 | | 1 | 1.70 | 1 | 1.70 |
| b. | | | | | |
| c. | | | | | |
| d. | | | | | |
| 16. Additional Descriptions for Materials Listed Above | | K. Handling codes for Wastes Listed Above | | | |
| a. | | a. | | | |
| b. | | b. | | | |
| c. | | c. | | | |
| d. | | d. | | | |
| 17. Special Handling Instructions and Additional Information | | | | | |
| 18. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, and all applicable state laws and regulations. Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3302(b) of RCRA, I also certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. | | | | | |
| Printed/Typed Name | | Signature | | Date | |
| 19. Transporter 1 Acknowledgement of Receipt of Materials | | Signature | | Date | |
| Printed/Typed Name | | Signature | | Date | |
| 20. Transporter 2 Acknowledgement of Receipt of Materials | | Signature | | Date | |
| Printed/Typed Name | | Signature | | Date | |
| 19. Discrepancy Indication Space | | | | | |
| 20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. | | | | | |
| Printed/Typed Name | | Signature | | Date | |



State of New Jersey
Department of Environmental Protection
Division of Waste Management
CN 028, Trenton, NJ 08625

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2000-0404. Expires 7-31-86

| UNIFORM HAZARDOUS WASTE MANIFEST | | 1. Generator's US EPA ID No. | 2. Page 1 of 1 | Information in the shaded areas is not required by Federal law.* | |
|--|--|---|--------------------|--|---------------|
| 3. Generator's Name and Mailing Address A-1 Tank Cleaning Service 11 Rt. View St., West Orange, N.J. 07052 | | 6. US EPA ID Number NJ0000000000 | | A. State Manifest Document Number NJA0221085 | |
| 4. Generator's Phone (201) 736-5020 | | 7. US EPA ID Number NJ0000000000 | | B. State Gen ID NJ0000000000 | |
| 5. Transporter 1. Company Name A-1 Tank Cleaning Service | | 8. US EPA ID Number NJ0000000000 | | C. State Transporter ID NJ0000000000 | |
| 7. Transporter 2. Company Name | | 9. US EPA ID Number | | D. Transporter's Phone (201) 736-5020 | |
| 9. Designated Facility Name and Site Address A-1 Tank Cleaning Service 472 Philadelphia Ave. Newark, N.J. 07102 | | 10. US EPA ID Number NJ0000000000 | | E. State Transporter 2 ID | |
| | | | | F. Transporter's Phone | |
| | | | | G. State Facility's ID | |
| | | | | H. Facility's Phone (201) 736-5020 | |
| 11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) | | 12. Containers | 13. Total Quantity | 14. Unit Wt/Vol | 15. Waste No. |
| a. Waste oil non combustible liquid 1.75 | | 1 | 1.75 | | |
| b. | | | | | |
| c. | | | | | |
| d. | | | | | |
| J. Additional Descriptions for Materials Listed Above | | K. Handling codes for Wastes Listed Above | | | |
| a. | | a. | | | |
| b. | | b. | | | |
| c. | | c. | | | |
| d. | | d. | | | |
| 15. Special Handling instructions and Additional Information | | | | | |
| 16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, and all applicable state laws and regulations. Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. | | | | | |
| Printed/Typed Name JOHN DOE | | Signature | | Date Month Day Year | |
| 17. Transporter 1 Acknowledgement of Receipt of Materials | | Date | | | |
| Printed/Typed Name JOHN DOE | | Signature | | Month Day Year | |
| 18. Transporter 2 Acknowledgement of Receipt of Materials | | Date | | | |
| Printed/Typed Name | | Signature | | Month Day Year | |
| 19. Discrepancy Indication Space | | | | | |
| 20. Facility Owner or Operator. Certification of receipt of hazardous materials covered by this manifest except as noted in item 19. | | | | | |
| Printed/Typed Name | | Signature | | Date Month Day Year | |

Item #12

Inventory of Chemical Substances

Item #12 - Inventory of Chemical Substances

Table 12.A provides an inventory of chemical substances handled at this facility. The substances are listed by chemical name, storage location and quantity. Storage locations are discussed in Item #11. Materials Safety Data Sheets for these substances are included as Attachment 12.B.

Table 12.A
Chemical Inventory List

Table 12.A

Chemical Inventory List
Selecto-Flash, West Orange, New Jersey

| <u>Chemical Trade Name</u> | <u>Location</u> | <u>Quantity (gal).</u> | |
|--------------------------------|---------------------------------------|------------------------|------------|
| | | <u>Min</u> | <u>Max</u> |
| SS83919 | Paint and Solvent Storage Building | 5 | 15 |
| JVS | Paint and Solvent Storage Building | 1 | 2 |
| PVS | Paint and Solvent Storage Building | 1 | 2 |
| UV3 | Paint and Solvent Storage Building | 1 | 5 |
| VINYL WASH "M" | Paint and Solvent Storage Building | 5 | 110 |
| SS14003 SOLVESSO 150 | Paint and Solvent Storage Building | 1 | 5 |
| SS12007 HGXE970 | Paint and Solvent Storage Building | 3 | 5 |
| SS14003 HGXE960 | Paint and Solvent Storage Building | 3 | 5 |
| Tolulene | Paint and Solvent Storage Building | 1 | 5 |
| SS67020 | Paint and Solvent Storage Building | 5 | 15 |
| 99% ISOPROPYL ALCOHOL | Paint and Solvent Storage Building | 1 | 5 |
| CYCLOHEXANONE | Paint and Solvent Storage Building | 1 | 5 |
| N9600 RETARDER | Paint and Solvent Storage Building | 1 | 2 |
| N9600 THINNER | Paint and Solvent Storage Building | 1 | 2 |

Dan Raviv Associates, Inc.
Job No. 86C367ATTACHMENT 

Table 12.A (cont'd)

Chemical Inventory List
Selecto-Flash, West Orange, New Jersey

| <u>Chemical Trade Name</u> | <u>Location</u> | <u>Quantity (gal).</u> | |
|--------------------------------|---------------------------------------|------------------------|------------|
| | | <u>Min</u> | <u>Max</u> |
| HGV THINNER | Paint and Solvent Storage Building | 1 | 5 |
| HGD RETARDER | Paint and Solvent Storage Building | 1 | 10 |
| SS37270 | Paint and Solvent Storage Building | 5 | 15 |
| SS67020 | Paint and Solvent Storage Building | 5 | 15 |
| SS59626 | Paint and Solvent Storage Building | 5 | 15 |
| ISOPHORONE | Paint and Solvent Storage Building | 1 | 15 |
| XYLENE | Paint and Solvent Storage Building | 1 | 5 |
| FOTOFOIL M Sealing Additive | Photo Developing Department | 1 | 7 |
| FOTOFOIL M FIXER | Photo Developing Department | 2 | 4 |
| FOTOFOIL M DEVELOPER | Photo Developing Department | 2 | 4 |
| AMMONIUM THIOCYANATE | Photo Developing Department | 1 | 2 |
| 711 THINNER | Paint & Solvent Storage Building | 1 | 5 |
| T-11 THINNER | Paint & Solvent Storage Building | 1 | 5 |

Dan Raviv Associates, Inc.
Job No. 86C367

ATTACHMENT 823

Item #13 - History of Spills

No spills are known nor have been reported for this facility. There is some visual evidence to suggest minor spillage may have occurred from 55-gallon drums in the vicinity of the paint storage shed. Proposed sampling intended to determine soil quality is discussed in the Proposed Sampling Plan Item #14.

Item #14

Proposed Sampling Plan
(Figures 14.1, 14.2)

ATTACHMENT B-25

Item #14 - Proposed Sampling Plan

Areas of Environmental Concern (Figure 14.1)

Two areas of environmental concern have been delineated at the investigation site. Area 1 encompasses the abandoned 10,000-gallon underground storage tank. The underground storage tank has been designated as an area of concern since it is not known whether this tank has leaked. Samples collected from this area will be analyzed to determine the possible presence of petroleum hydrocarbons.

Area of concern #2 encompasses the catch basin located to the east of the paint and solvent storage shed and the discharge line of the catch basin. Some minor staining of the pavement is found in the vicinity of the paint and solvent storage shed and the catch basin. This indicates that some spillage from storage container may have occurred. Although, the staining is minor the catch basin system is being investigated to determine if material may have washed into this system.

The catch basin is connected by underground pipe to a french drain system which runs along a portion of the properties west border. The area of staining, the catch basin and the french drain system has been designated as area of concern. Soil samples from this area will be analyzed to determine if volatile organics plus 15 including Xylene and MIBK are present.

Proposed Sampling

This proposed sampling plan is based on visual inspection and general site conditions. Proposed soil sampling locations have been presented on Figure 14.2. These locations are associated with areas of environmental concern and are designed to determine general site conditions.

Area 1

Soil samples from area 1 will be collected from inside the underground storage tank through the bottom of the tank into the soil below. The tank will be prepared prior to sampling by Direct Environmental Services of Newark, New Jersey.

Four sampling "ports" will be constructed inside the tank to allow for a split spoon to be driven through the bottom of the tank into the underlying soil. The ports will consist of sections of 4" diameter pipe welded to the base of the tank, along the centerline at 5 foot intervals. The top end of the pipe will be threaded to allow for a cap to be installed. Once the pipes are in place a hole will be cut through the bottom of the tank from inside the pipe. Soil samples will be collected through the sampling ports using a split spoon device.

Area 2

Soil sample collection in area 2 will be performed using a drill rig or tripod with a split spoon sampling device. Soil sample #2(1) adjacent to

the catch basin will be collected at an interval beginning at a depth which corresponds to the bottom of the catch basin. This sample is intended to determine if contamination has leaked from the catch basin into the surrounding soils. Sampling points #2(2), #2(3), #2(4) also located in area 2, are intended to determine if contaminants have leaked from the french drain system into the surrounding soil. Collection intervals will begin at the same horizontal plane as the perforated french drain pipe.

Sampling locations #2(5) and #2(6) are positioned in an unpaved area west of the paint/solvent shed. The intent of these samples is to determine if leakage from the building has occurred.

BACKGROUND SAMPLE

A background sample is proposed to be located in the unpaved parking lot area which borders Mitchell Street.

Soil sample locations, depth intervals and parameter selection for all samples is provided on Table 14.1.

Analysis of soil samples will be performed by S-R Analytical of Cherry Hill New Jersey. A Tier-II QA/QC deliverables package will be generated and will accompany the analytical data. A copy of S-R's SOP is file with the ECRA/BISE office, an additional copy can be supplied if requested.

Any deviation from the proposed sampling plan or DRAI sampling protocols, experienced during field investigations will be documented to the ECRA office. Prior to the collection of any soil sampling, the ECRA case manager will be notified.

Table 14.I

Selecto-Flash, West Orange, New Jersey

| <u>Sample Designation</u> | <u>Depth Interval</u> | <u>Parameter</u> |
|---------------------------|-----------------------|------------------|
| #1(1) | 0-2' (1) | PHC |
| #1(2) | 0-2' (1) | PHC |
| #1(3) | 0-2' (1) | PHC |
| #1(4) | 0-2' (1) | PHC |
| #2(1) | 0-2' (2) | VOC+15 (4) |
| #2(2) | 0-2' (3) | VOC+15 |
| #2(2) | 2-4' | VOC+15 |
| #2(3) | 0-2' (3) | VOC+15 |
| #2(4) | 0-2' (3) | VOC+15 |
| #2(4) | 2-4' | VOC+15 |
| #2(5) | 0-2' | VOC+15 |
| #2(6) | 0-2' | VOC+15 |
| Background | 0-2 | PHC |
| | 2-4 | VOC+15 |

-
- (1) Sampling interval to begin beneath tank.
 - (2) Sampling interval to begin at base of catch basin.
 - (3) Sampling interval to begin at the same horizontal level as the french drain.
 - (4) VOC+15 including Xylene and MIBK.

MITCHELL STREET
ATTACHMENT

PROPERTY LINE

ART
DEPT.

⑦

CAMERA
ROOM

SHEETER

OVEN

⑤

PRESS

SHEETING DEPT.
AND PRINTING

COATING ROOM

LAMP
ROOM

SCREEN PREP. DEPT.

CUTTING
ROOM

WASHING
ROOM

⑥

TO SANITARY
SEWER

0 30'
APPROXIMATE SCALE




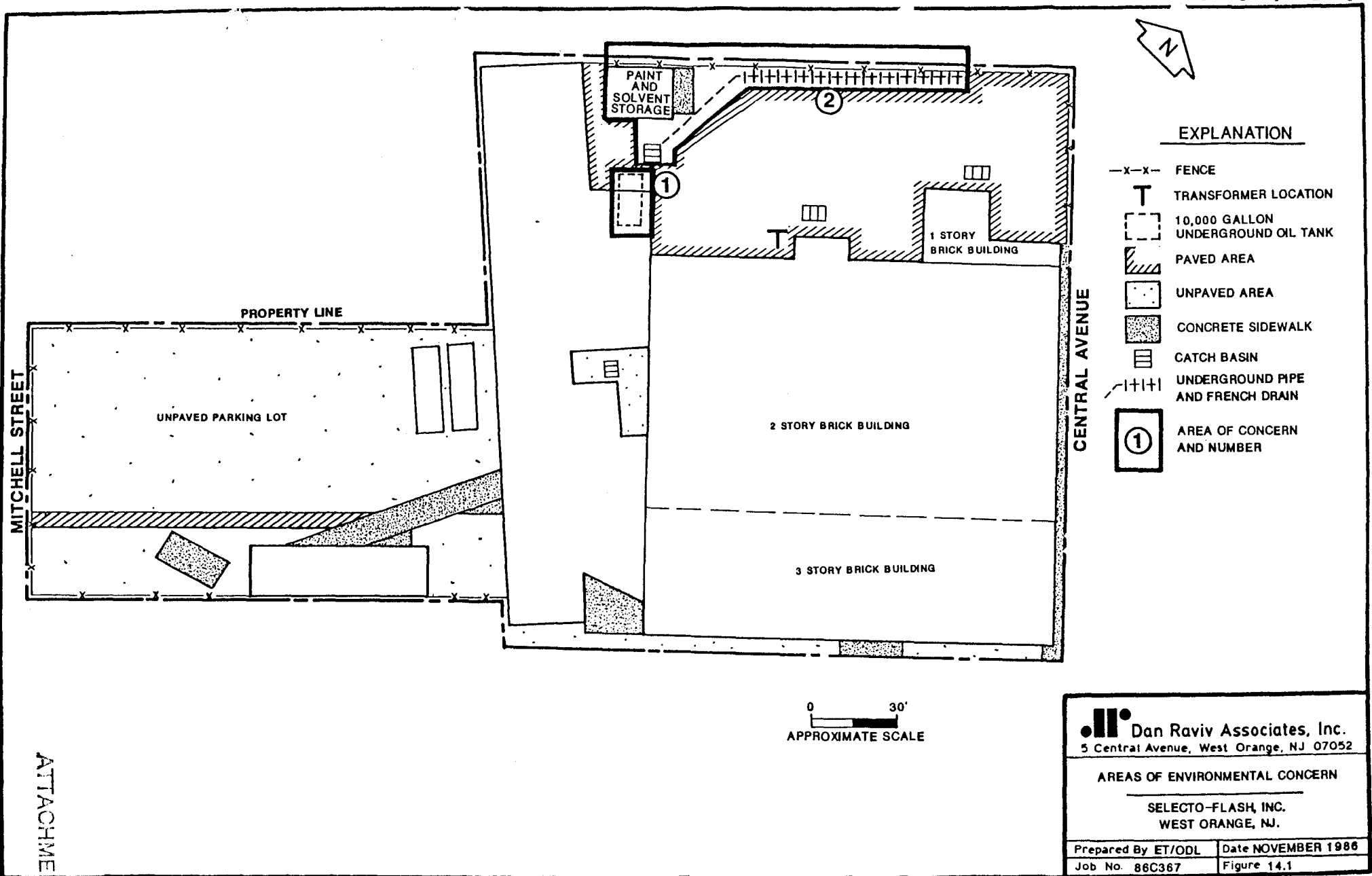
EXPLANATION

⑤ AREA DESIGNATION

● FLOOR DRAIN

NOTE: REFER TO ITEM #10
FOR A DESCRIPTION
OF OPERATIONS

| | |
|---|--------------------|
|  Dan Raviv Associates, Inc. 5 Central Avenue, West Orange, NJ 07052 | |
| DEPARTMENTAL LAYOUT SECOND FLOOR | |
| SELECTO-FLASH, INC. WEST ORANGE, NJ. | |
| Prepared By ET/ODL | Date NOVEMBER 1986 |
| Job No. 36C367 | Figure 10.2 |



ATTACHMENT

R-31

Material Safety Data Sheet

PVS THINNER

QUICK IDENTIFIER
Common Name: (1)

May be used to comply with OSHA's Hazard Communication Standard, 29CFR 1910.1200. Standard must be consulted for specific requirements.

Color-Mix, Inc.
665 West Wise Road
Schaumburg, IL 60193
Phone: (312) 351-9865
Telex: 25-4089

SECTION 1 -

Manufacturer's Name Hermann Wiederhold GmbH

Address Am Stadtpark 69

City, State, and ZIP 8500 Nuernberg
West Germany

Emergency Telephone No. Color Mix, Inc.
312 351 9865

Other Information Calls Color Mix, Inc.
312 351 9865

Signature of Person Responsible for Preparation (Optional)

Date Prepared May 1, 1986

SECTION 2 - HAZARDOUS INGREDIENTS/IDENTITY

| Hazardous Component(s) (chemical & common name(s)) | OSHA PEL | ACGIH TLV | Other Exposure Limits | % (optional) | CAS NO. |
|--|----------|-----------|-----------------------|--------------|------------|
| Glycol-acid-n-butylester | | | | 20% | 7397-62-8 |
| Cyclohexanone | | | | 10% | 108-94-1 |
| Solvent Naphtha 100 (Aromatic Hydrocarbones) | | | | 70% | 64742-95-6 |

SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS

| | | |
|--|---|--|
| Boiling Point 156° C | Specific Gravity (H ₂ O=1) 0.900 | Vapor Pressure (mm Hg) mbar at 20° C 5 |
| Vapor Density (Air = 1) > 1 | | |
| Solubility in Water Not Soluble | Reactivity in Water None | |
| Appearance and Odor Clear liquid with odor of organic solvents | Melting Point Unknown | |

SECTION 4 - FIRE & EXPLOSION DATA

| | | | |
|------------------------------------|---|---|-----------|
| Flash Point F. 45C. | Method Used AP | Flammable Limits in Air % by Volume LEL Lower 0.8 | UEL Upper |
| Auto-Ignition Temperature | Extinguisher Media Chemical Powder, Carbonic Acid - CO ₂ , Foam | | |
| Special Fire Fighting Procedures | Water spray may be ineffective. Water may be used to cool endangered containers. For extinguishing larger fires or inside buildings an independent self-contained breathing apparatus is recommended. | | |
| Unusual Fire and Explosion Hazards | | | |

Keep containers tightly closed. Water may be used to cool endangered containers.

ATTACHMENT D534

Section V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

Not Established

EFFECTS OF OVEREXPOSURE

Eye, skin, nose, and throat irritant. Inhalation may cause headache, dizziness, and nausea.

EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Flush with water. SKIN CONTACT: Wash with soap and water and apply skin cream. INHALATION: Remove to fresh air.

Section VI - REACTIVITY DATA

STABILITY

UNSTABLE

CONDITIONS TO AVOID

STABLE

X

INCOMPATIBILITY (Materials to avoid)

Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS

CO

HAZARDOUS
POLYMERIZATION

MAY OCCUR

CONDITIONS TO AVOID

WILL NOT OCCUR

X

Section VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove ignition sources. Wipe up with absorbant material.

WASTE DISPOSAL METHOD

This product is considered a hazardous waste and should be disposed of under current E.P.A. regulations.

Section VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

USBM TYPE B ORGANIC VAPOR CANNISTER

VENTILATION

LOCAL EXHAUST

Preferred

SPECIAL

MECHANICAL (General)

Acceptable

OTHER

PROTECTIVE GLOVES

Neoprene Rubber

EYE PROTECTION

Chemical Safety Goggles

OTHER PROTECTIVE EQUIPMENT

Section IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store in cool ventilated area.

PRECAUTIONS

Harmful or fatal if swallowed. Call physician immediately.

ATTACHMENT

MATERIAL SAFETY DATA SHEET

SECTION I

| | | |
|--|---------|--|
| PRODUCT NAME OR NUMBER HGV Thinner | | EMERGENCY TELEPHONE NO. (0911) 369 91 36828 |
| MANUFACTURER'S NAME Hermann Wiederhold GmbH | | MANUFACTURER'S D-U-N-S NO. |
| ADDRESS (Number, Street, City, State and Zip Code) Am Stadtpark 69 - 8500 Nuernberg - WEST GERMANY | | |
| HAZARDOUS MATERIALS DESCRIPTION AND PROPER SHIPPING NAME(49 CFR 172.101) Compound laquer tninner liquid | | HAZARD CLASS (49 CFR 172.101) Combustible |
| CHEMICAL FAMILY | FORMULA | |

SECTION II — INGREDIENTS (list all ingredients)

| | CAS REGISTRY NO. | % |
|-------------------------|------------------|----|
| Glycol Acid Butyl Ester | 7397-628 | 20 |
| Cyclohexanone | 108-94-1 | 10 |
| Naphta 100 | 64742-95-6 | 70 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

SECTION III — PHYSICAL DATA

| | | | |
|--|------|---|------|
| BOILING POINT (°F) (°C) | 250° | SPECIFIC GRAVITY (H ₂ O=1) @ 68°F | .890 |
| VAPOR PRESSURE (mm Hg) <input type="checkbox"/> @ 68°F (psi) <input type="checkbox"/> | 3.3 | PERCENT VOLATILE BY VOLUME (%) | |
| VAPOR DENSITY (AIR=1) | | EVAPORATION RATE (1) | |
| SOLUBILITY IN WATER | No | pH= | |
| APPEARANCE AND ODOR At 68°F in liquid form. Odor of organic solvents. | | IS MATERIAL GAS <input type="checkbox"/> <u>LIQUID</u> <input checked="" type="checkbox"/> SOLID PASTE <input type="checkbox"/> POWDER <input type="checkbox"/> | |

SECTION IV-FIRE AND EXPLOSION HAZARD DATA

| | | | | |
|---|-------|------------------|-----|-----|
| FLASH POINT (method used) (°F) (°C) | 100°F | FLAMMABLE LIMITS | LEL | UEL |
| EXTINGUISHING MEDIA CO ₂ Foam, Powder, or Sand, NOT Water | | | | |
| SPECIAL FIRE FIGHTING PROCEDURES Ignition temp. over 750°F | | | | |
| UNUSUAL FIRE AND EXPLOSION HAZARDS | | | | |

SECTION V-HEALTH HAZARD DATA

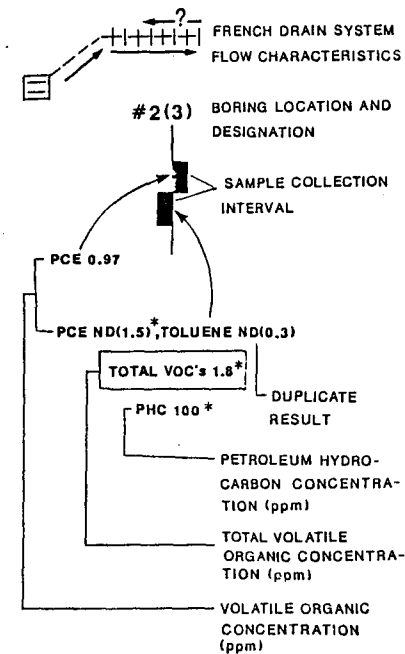
| | |
|--|---|
| EFFECTS OF OVEREXPOSURE: Excessive inhalation should be avoided. | THRESHOLD LIMIT VALUE <input type="checkbox"/> PERMISSIBLE EXPOSURE LIMIT <input type="checkbox"/> |
| ATTACHMENT <input checked="" type="checkbox"/> | |
| EMERGENCY AND FIRST AID PROCEDURES Skin: Wash thoroughly with soap & water, apply hand cream. Excessive Inhalation: Rempve to fresh air. Ingestion: Do NOT vomit or give milk. Drink water and see physician. | |

0 - 2'
PCE 6.7*, TOLUENE 11.3*
TOTAL VOC's 18.0*
PHC 1500*

0 - 2'
PCE 4.1*, TOLUENE 14.0*
XYLENE 19.0*
NON-TARGETTED 26.0*
59.0*
TOTAL VOC's 63.1*
PHC 120*



EXPLANATION



* - CONCENTRATION IN EXCESS OF ECRA ACTION CLEANUP LEVEL

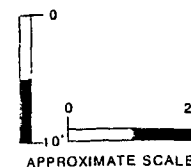
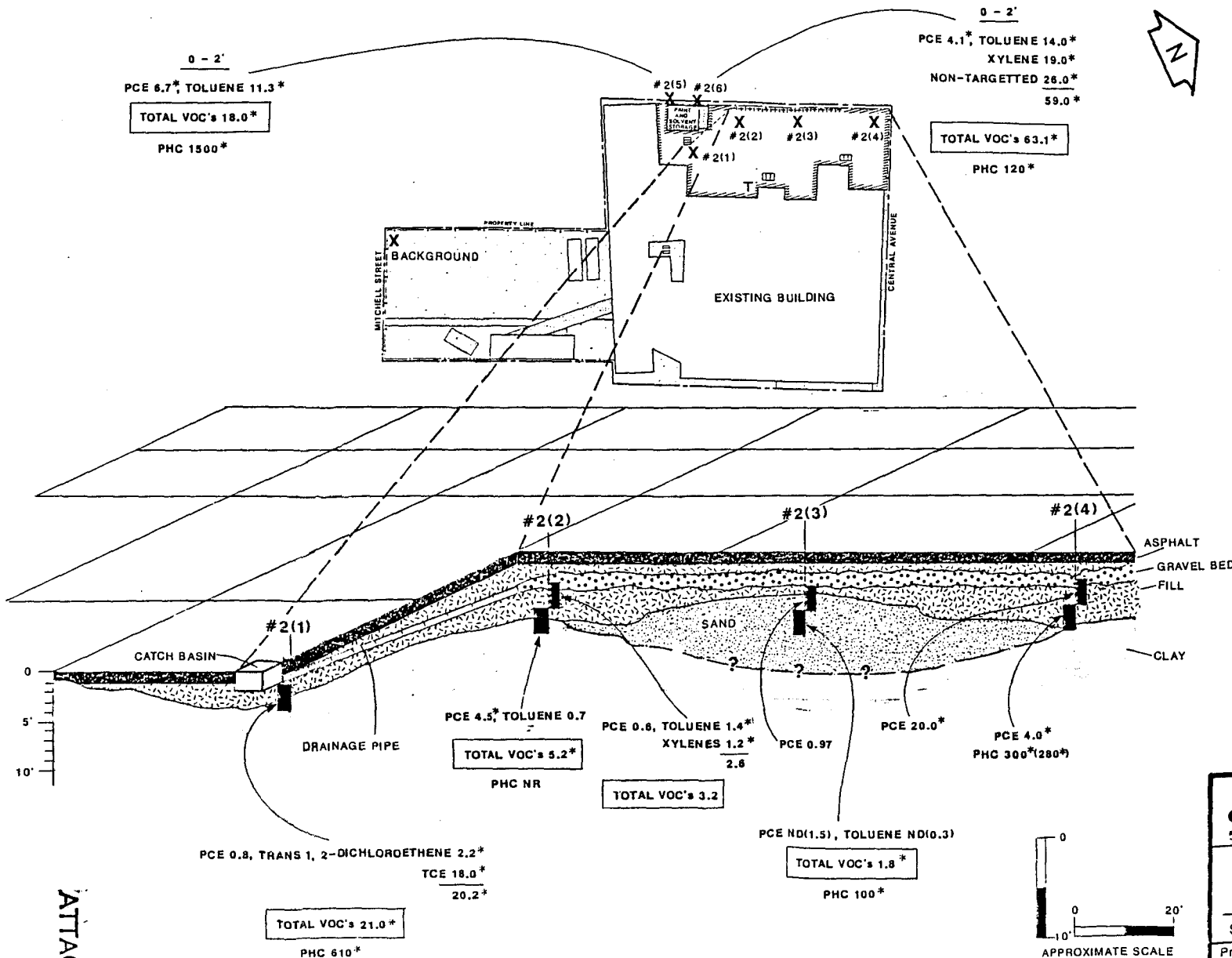
ND - NOT DETECTED
NR - NOT REQUIRED

Dan Raviv Associates, Inc.
5 Central Avenue, West Orange, NJ 07052

RESULTS OF JANUARY 1987
SOIL ANALYSIS

SELECTO - FLASH INC. WEST ORANGE, NJ.

Prepared By ET/ODL Date MARCH 1987
Job No. 86C367 Figure 16.1



ATTACHMENT

B-35

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
HAZARDOUS WASTE GENERATOR ANNUAL REPORT 1986
- CERTIFICATION FORM -

I. EPA ID Number: NJD002148799
II. Generator Name: SELECTO-FLASH, INC.
III. Contact Person: MR. GARY SUPER
IV. Phone Number: 201-677-3500 (EXT# 264)

V. Certification:

I certify that the information given in this annual report is true,
accurate and complete.

GARY SUPER
(Print or type name)
COLOR LAB MANAGER

Mr. Gary Super
(Signature)

FEB. 25, 1987
(Date)

ATTACHMENT B-36

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
HAZARDOUS WASTE GENERATOR ANNUAL REPORT 1986
- REPORT FORM -

1. Generator Name: SELECTO-FLASH, INC. EPA ID No.: NJD002148799
Site Address: 18 CENTRAL AVENUE - WEST ORANGE, NEW JERSEY 07052
TECHTRONICS
2. Transporter Name: ECOLOGICAL CORP. EPA ID No.: NYD000824334
TECHTRONICS
3. TSD Facility Name: ECOLOGICAL CORP. EPA ID No.: NYD000824334
TSD Address: 8 WALWORTH STREET - BROOKLYN, NEW YORK

| Waste | Waste | DOT Haz | Total | |
|------------|-------------------------------------|-------------|--------------|-----------|
| A.) Number | B.) Description | C.) Class | D.) Quantity | E.) Units |
| F003 | WASTE, FLAMMABLE, LIQUID NOS. | I UN1993 | 2310 | G |

NOTE: For each combination of transporter and TSD facility, list the total quantity manifested for each waste type.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
HAZARDOUS WASTE GENERATOR ANNUAL REPORT 1986
- WASTE SUMMARY FORM -

Generator Name: SELECTO-FLASH, INC.

EPA ID No.: NJD002148799

Please indicate below the total quantity of hazardous waste manifested during the 1986 report year for each unit of measure:

| | |
|-------------|----------------------------|
| <u>2310</u> | G - Gallons (liquids only) |
| <u>0</u> | P - Pounds |
| <u>0</u> | T - Tons (2,000 lbs.) |
| <u>0</u> | Y - Cubic Yards |
| <u>0</u> | L - Liters (liquids only) |
| <u>0</u> | K - Kilograms |
| <u>0</u> | M - Metric Tons (1,000 kg) |
| <u>0</u> | N - Cubic Meters |

*Enter zero (0) for units of measure which were not utilized.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT
HAZARDOUS WASTE GENERATOR WASTE MINIMIZATION REPORT: 1986

COMPANY: SELECTO-FLASH, INC. EPA ID NO.: NJD002148799
(Name)

MAILING ADDRESS: 18 CENTRAL AVENUE - WEST ORANGE, NEW JERSEY
(Street) (City) (State)

LOCATION OF GENERATOR SITE: _____
(If different from mailing address)

CONTACT PERSON: MR. GARY SUPER (201) 677-3500 (EXT.# 264)
(Name) (Telephone Number)
X Mr Gary Super COLOR LAB MANAGER
(Signature) (Title)

PLEASE COMPLETE THE FOLLOWING SURVEY AND REPORT. FOR ASSISTANCE CALL (609) 292-8341

PART I: HAZARDOUS WASTE MINIMIZATION SURVEY

- What problems are you encountering in attempting to reduce waste generation?
☐ Economic ☒ Technical
☐ Regulatory ☐ Other (explain)
- What can government do to help you reduce your generation of hazardous waste?
☐ Amend Regulations ☐ Grants ☐ Technical Assistance ☐ Other
☐ Loans ☒ Tax Incentives ☐ Impose generation limits (explain)
or standards
- If you intend to implement a hazardous waste reduction program how much reduction do you expect to achieve:
☒ < 10% ☐ 10 - 25% ☐ 26 - 50 % ☐ 51 - 75% ☐ > 75%
- Enter the codes (1-7 below) of source reduction approach(es) to be used: 3 4 5
1-Recycling (reuse) onsite 5-Reformulation/redesign of product
2-Recycling (reuse) offsite 6-Substituting raw materials
3-Equipment/technology modifications 7-Improved operations due to: housekeeping,
4-Process procedure modifications training, inventory control
- Check the reason(s) for implementing this source reduction program:
☒ High costs of hazardous waste disposal ☐ To increase product marketability by
☐ Increased insurance costs & liability decreasing product cost through improving
☒ To lessen the impact of increasingly manufacturing process efficiency
complex & restrictive regulations ☐ Other (explain)

PART II: 1986 WASTE MINIMIZATION REPORT DATA

EXPLANATIONS and SAMPLE CALCULATIONS:

| WASTE NUMBER | 1985 | | 1986 | | UNIT (WEIGHT OR VOLUME) | INCREASE OR DECREASE OF AMT WASTE UNIT PRODUCT | REDUCTION CODE(s) | DISPOSAL CODE |
|--|--|---|--|---|--|---|---|---|
| | AMOUNT | AMT WASTE UNIT PRODUCT | AMOUNT | AMT WASTE UNIT PRODUCT | | | | |
| See NJAC. 7:26-8.9 -8.15 | Total waste generated in 1985 | Divide waste generated by unit of product produced | Total waste generated in 1986 | Divide waste generated by unit of product produced | G-Gallons T-Tons P-Pounds 1 TON = 2000 LBS | 2.0 gal/unit 1986 -2.5 gal/unit 1985 ----- -0.5 gal per unit of product produced; reduced from 1985 to 1986 | See pg 1 for explanation & legend | See pg 2 for explanation & legend |
| SAMPLE DATA: | | | | | | | | |
| 1. F001 | 335 | 2.5 | 420 | 2.0 | G | -0.5 | 3 | RF |
| SIC CODE for Waste Stream No 1 - 3879 Product Produced - Circuit Boards | | | | | | | | |

| | | | | | | | | |
|--|------|----------------------|------|---------------------------|---|---|---|----|
| 1. F003 | 3441 | .000395/ \$ SALES | 2310 | .000385 gals/ \$ SALES | G | .000395 .000385 /REDUCED .000010 PER \$ SALES | 3 | RF |
| SIC CODE for Waste Stream No 1 - 2799 Product Produced - GRAPHIC MARKINGS | | | | | | | | |
| 2. | | | | | | | | |
| SIC CODE for Waste Stream No 2 - Product Produced - | | | | | | | | |
| 3. | | | | | | | | |
| SIC CODE for Waste Stream No 3 - Product Produced - | | | | | | | | |
| 4. | | | | | | | | |
| SIC CODE for Waste Stream No 4 - Product Produced - | | | | | | | | |
| 5. | | | | | | | | |
| SIC CODE for Waste Stream No 5 - Product Produced - | | | | | | | | |

PART II: 1986 WASTE MINIMIZATION REPORT DATA: ADDITIONAL SAMPLE DATA

EXPLANATIONS and SAMPLE CALCULATIONS:

| WASTE NUMBER | 1985 | | 1986 | | UNIT (WEIGHT OR VOLUME) | INCREASE OR DECREASE OF AMT WASTE UNIT PRODUCT | REDUCTION CODE(s) | DISPOSAL CODE |
|--------------------------|-------------------------------|--|-------------------------------|--|---|--|-----------------------------------|-----------------------------------|
| | AMOUNT | AMT WASTE UNIT PRODUCT | AMOUNT | AMT WASTE UNIT PRODUCT | | | | |
| See NJAC. 7:26-8.9 -8.15 | Total waste generated in 1985 | Divide waste generated by unit of product produced | Total waste generated in 1986 | Divide waste generated by unit of product produced | G-Gallons T-Tons P-Pounds 1 TON = 2000 LBS | 2.0 gal/unit 1986 -2.5 gal/unit 1985 ----- -0.5 gal per unit of product produced; reduced from 1985 to 1986 | See pg 1 for explanation & legend | See pg 2 for explanation & legend |
| SAMPLE DATA: | | | | | | | | |
| 1. F001 | 335 | 2.5 | 420 | 2.0 | G | -0.5 | 3 | RF |
| 2. F001 | 0 | 0 | 53.4 | 0 | T | 0 | 11 | L |
| 3. D007 | 558 | 0.3 | 0 | 0 | P | -0.3 | 5 | -- |
| 4. D001 | 1534 | 45 | 1843 | 50 | G | 5 | 6, 8 | IF |
| 5. X722 | 897 | 10 | 735 | 9 | G | 1 | 12 | RF |

The examples of waste minimization in sample data shown in this section serve as useful guidelines for understanding how to categorize your firm's waste stream for reporting. Note that the SIC Code for each waste stream is not shown in this section, but must be reported on the actual report form.

The waste streams reported as sample data No.1 & No.2 are both F001 wastes. They have been reported separately to identify stream No.1 as the normal waste from a manufacturing process and stream No.2 as a one time spill cleanup residue which was also classified as F001. This distinction is important to the proper reporting on a production unit basis of the amount of F001 waste actually attributable to the manufacturing process. Note that the *REDUCTION CODES* selected identify waste stream No.1 as being reduced on a unit basis due to equipment or technological modifications (3) and stream No.2 as a one time cleanup residue (11).

Waste stream No.3 depicts a waste stream that was eliminated entirely in 1986 by reformulating the product. This corresponds with *REDUCTION CODE* (5).

Waste stream No.4 depicts a waste stream that increased on a production unit basis from the prior year. *REDUCTION CODES* indicate that this was due to raw material substitution (6) which resulted in more waste being produced per production unit but of a less toxic nature (8).

Waste stream No.5 depicts waste all that showed an increase in generation per production unit from the prior year. *REDUCTION CODE* (12) indicates that an overall increase in waste generation occurred.

ATTACHMENT C



Selecto - Flash, Inc.

18 Central Avenue, West Orange, New Jersey 07052 U.S.A. • Phone: 201-677-3500

Cable: S Flash WOGE • Telex: 138-622 • Fax: 201-674-1529

August 24, 1989

State of New Jersey
Department of Environmental Protection
Division of Hazardous Waste Management
401 E. State Street, CNO 28
Trenton, NJ 08625

Att: Karl J. Delaney, Assistant Director
Industrial Site Evaluation Element

Re: Selecto-Flash, Inc. Ecra Case 86935

Dear Mr. Delaney:

On October 6, 1986 Selecto-Flash entered into a contract with TLK Associates, a New Jersey Partnership, to sell and lease-back its land and building located in West Orange, NJ for \$1,625,000. In November 1986 Selecto-Flash filed the initial Ecra application. A case manager was assigned in September 1987. The purpose of the transaction was to refinance and arrange for a 10 year lease-back of the property. The contract stated that the closing could not take place until the property had been granted Ecra approval. The sales contract stated that Selecto-Flash was responsible for the first \$100,000 in Ecra costs and the purchaser would assume the next \$100,000. The next \$50,000 would be paid by the purchaser who would then be allowed to increase the annual rental to Selecto-Flash to compensate for the added costs. Anything above \$250,000 would be subject to further negotiations.

Subsequent to a meeting between Selecto-Flash, Inc. and TLK Associates held in November, 1988, 3 partners indicated to the company that they were withdrawing from the original partnership and did not want to pursue the contract any further due to delays in receipt of Ecra approval and the inability to determine a total Ecra liability at the time. The partners, who had withdrawn from TLK Associates, requested that we try to reach agreement with the remaining members of the partnership. As of today, we have not signed a formal agreement with the new entity. We contemplate reaching agreement with this new entity on or about mid-September 1989. The contract which we are currently negotiating will have a mortgage contingency and we have granted the purchaser a period of three months to obtain a mortgage commitment.

RECEIVED
SEP 6 9 39 AM '89
INDUSTRIAL
SITE EVALUATION
ELEMENT

ATTACHMENT 1

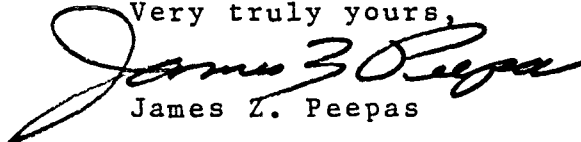
The transaction which Selecto-Flash entered into regarding its property was for refinancing purposes. It was our intent to use the proceeds from the sale to pay off bank debt. We had no intention of abandoning the West Orange facility, as we had agreed to a 10 year lease.

Please be advised that the estimated costs to obtain Ecra approval, engineering and site clearances shall be well above \$325,000 of which over \$150,000 have been incurred to date, primarily for site engineering, sampling and testing. As of today we have not begun any of the formal work necessary to put into effect the cleanup plan which is estimated at \$175,000. Additional engineering and legal fees will be incurred.

The demand letter of the Department sent to us on August 7, 1989 requiring us to post financial assurances in the amount of \$175,000 caught us totally by surprise. Selecto-Flash due to lack of a formal contract and mortgage commitment from the purchaser is not in a position to provide financial assurances in the amount of \$175,000. Please be advised that Selecto-Flash, or its principals, due to adverse operations from 1985 to 1988 do not have available financial resources or collateral that would be necessary to provide the backing for the financial assurances. Selecto-Flash at the time the purchaser has the mortgage commitment and is ready to close shall go to its bank and obtain the financial assurances bond because the bank is desirous of having the building sale completed. Selecto-Flash's primary intent in entering into this contract, which caused us to trigger the Ecra process, was primarily for refinancing purposes. It is our expectation that we should have a formal contract signed with Eastwood Development Corporation, the successor to TLK Partnership, by mid-September. We expect the formal closing to take place within 4 to 5 months of the contract signing. We therefore request a 6 month delay in the posting of financial assurances. As soon as the purchaser obtains a mortgage commitment we will set a closing date.

We look forward to hearing from you and receiving a favorable response to our request.

Very truly yours,


James Z. Peepas

JZP:jdb

→ cc: John Graham

ATTACHMENT C-2

ATTACHMENT D



Dan Raviv Associates, Inc.

Consultants in hydrogeology, water quality, landfill hydrology and ECRA compliance

RESPONSES TO BEECRA COMPLIANCE LETTERS
AND
PROPOSED SOIL CLEANUP PLAN
SELECTO-FLASH
WEST ORANGE, NEW JERSEY

DRAI JOB NO. 86C367

Volume I of II

prepared for:

Selecto-Flash Inc.
18 Central Avenue
West Orange, New Jersey

prepared by:

Dan Raviv Associates, Inc.
57 East Willow Street
Millburn, New Jersey 07041

November 1988

57 East Willow Street, Millburn, New Jersey 07041 (201) 564-6006/FAX (201) 564-6442

ATTACHMENT 1

Table of Contents

| <u>Section</u> | <u>Title</u> | <u>Volume No.</u> | <u>Page</u> |
|----------------|--|-------------------|-------------|
| | RESPONSES TO BEECRA COMPLIANCE LETTERS | | |
| 1.0 | INTRODUCTION | I | 1 |
| 2.0 | BEECRA CORRESPONDENCE OF FEBRUARY 23, 1988 | I | 1 |
| 2.1 | Actions Required | | 1 |
| 3.0 | BEECRA CORRESPONDENCE OF MAY 24, 1988 | I | 2 |
| 3.1 | Actions Required | | 2 |
| 3.2 | Additional Requirements | | 3 |
| <hr/> | | | |
| | PROPOSED SOILS AND GROUND-WATER CLEANUP PLAN | | |
| 1.0 | INTRODUCTION | I | 4 |
| 2.0 | RESULTS OF SOIL AND GROUND-WATER SAMPLING | I | 7 |
| 3.0 | PROPOSED CLEANUP PLAN | I | 7 |
| 4.0 | PROPOSED SOIL VENTING SYSTEM | I | 8 |
| 4.1 | Technical Approach | | 8 |
| 4.2 | Proposed Treatment System | | 9 |
| 4.3 | Work Plan | | 10 |
| 5.0 | SOIL EXCAVATION | I | 12 |
| 6.0 | GROUND-WATER CLEANUP | I | 13 |
| 6.1 | Volatile Organics | | 13 |
| 6.2 | Petroleum Hydrocarbons | | 13 |
| 6.3 | Sampling | | 14 |
| 7.0 | PROPOSED SUPPLEMENTARY SAMPLING PLAN | I | 15 |
| 8.0 | PROJECTED TIME TABLE FOR CLEANUP | I | 16 |
| 9.0 | COST ESTIMATE | I | 17 |

(1)

List of Figures

| <u>Figure No.</u> | <u>Title</u> | <u>Volume No.</u> |
|-------------------|--|-------------------|
| 1 | Results of Subsurface Soil Sampling | I |
| 2 | Results of Ground-water Sampling | I |
| 3 | Soil Gas Survey Results - PCE distribution Isocontour lines | I |
| 4 | Soil Venting System Layout | I |
| 5 | Soil Vapor Carbon Adsorption System | I |
| 6 | Details of a Typical Extraction Pipe/Manifold Assembly | I |
| 7 | Areas of Proposed Excavation | I |
| 8 | Cross Section of Soil Lithology | I |
| 9 | Projected Time Table for Cleanup | I |

List of Tables

| <u>Table No.</u> | <u>Title</u> | <u>Volume No.</u> |
|------------------|--|-------------------|
| I | Cost Estimates | I |
| II | Proposed Sampling Plan and Associated Cost For Analysis | I |
| III | Results of Subsurface Soil Analysis July 1988 | I |
| IV | Results of Ground-water Analysis August 1988 | I |

List of Appendices

| <u>Appendix</u> | <u>Title</u> | <u>Volume No.</u> |
|-----------------|---|-------------------|
| A | Soil Vapor Contaminant Assessment at Selecto-Flash Site in West Orange | I |
| B | Soil and Ground-water Sampling Results July, August and September 1988 | I |
| C | Biodegradation Sequence for PCE | I |
| D | Reference Documents for Responses to BEECRA Compliance Letters | I |
| E | Laboratory Data Sheets and Deliverables | II |

(iii)

ATTACHMENT 0-4

RESPONSES TO BEECRA COMPLIANCE LETTERS

1.0 INTRODUCTION

On February 23, and May 24, 1988, the Bureau of Environmental Evaluation and Cleanup Responsibility Assessment (BEECRA) issued letters to Selecto-Flash indicating actions required for compliance. Listed below is a point by point response to the BEECRA letters.

2.0 BEECRA CORRESPONDENCE FEBRUARY 23, 1988

2.1 Actions Required

- (1) All friable insulation material found within the building was removed by Bergen Technologies, Inc., 65 Railroad Avenue, Ridgefield Park, New Jersey, during August 1988. The generator's waste material profile sheet for miscellaneous special waste is provided in Appendix D of the attached, Proposed Cleanup Plan to document removal of the asbestos.
- (2) Selecto-Flash has obtained documentation regarding the PCB content of the one transformer located on-site from Public Service Electric and Gas Company (PSE&G). This letter is provided in Appendix D of the attached, Proposed Cleanup Plan. There is no evidence of staining on the concrete pad where the transformer is located.
- (3) Also provided in Appendix D is a letter from the local, publicly-owned, treatment works (POTW) acknowledging receipt of the Selecto-Flash discharge. In addition, attached is correspondence from the Essex County Highway Department which indicates that the storm sewers discharge to the combined sanitary storm system maintained by the POTW.

It is DRAI's opinion that a discharge to surface-water (NJPDDES-WSD) permit for the storm sewer discharges is not required. The catch basin which are connected to the storm source system discharge into the combined sanitary and storm water system of the local POTW. The catch basin which is presently an internal part of the french drain system, will also be connected to the storm water discharge system. The french drain system itself will be excavated and removed as detailed in the proposed soil excavation plan provided as Section 5.0 of the attached cleanup plan proposal.

- (4) A letter from James Z. Peepas, President of Selecto-Flash Inc., is provided in Appendix D of the Proposed Cleanup Plan. This correspondence delineates measures which will be taken to monitor proper housekeeping.

Selecto-Flash has contracted the services of Industrial Technical Associates (ITA) of West Orange, New Jersey, to determine the air

ventilation permit requirements for Selecto-Flash. ITA has concluded that air permits are necessary and is in the process of preparing the applications.

3.0 BEECRA CORRESPONDENCE OF MAY 24, 1988

3.1 Actions Required

- (1) During July 1988, DRAI directed the installation of two, additional, 4-inch diameter, ground-water monitoring wells at the investigation site. Present at that time was NJDEP/BGWQM geologist Robert Lux. Details regarding the installation and analysis of associated soil and ground-water samples are provided in Section 3.0 of the attached plan.

As agreed by the NJDEP, Selecto-Flash and DRAI, the 2-inch diameter well can be left in place for the purpose of determining ground-water contours.

Provided in Appendix D is a well search which was performed for the area within a one-mile radius of the facility. DRAI also contacted Mr. Alex Caprio from the West Orange Health Department and Mr. Nick Marturello from the New Jersey-American Water Company to get information on privately-owned wells within a one-mile radius of Selecto-Flash. Both indicated that they do not keep any such records. Mr. Caprio said that he, personally, is not aware of any privately-owned wells in the area.

Proposed closure of the french drain system and the development of an alternative system is discussed in the proposed soil excavation plan presented in Section 5.0 of the cleanup plan.

- (2) Soil gas analysis, for the purpose of delineating PCE and other volatile materials, was performed on September 1988. Results from that survey are presented in Appendix A of the attached plan.

As agreed during the NJDEP/Selecto-Flash meeting, sediment samples collected from the two catch basins located in the parking lot would satisfy the requirement of Paragraph 2, Item 2. Also as agreed, no samples were collected since no sediment was found in the catch basins.

- (3a) During the installation of the monitoring wells, soil samples were collected in the vicinity of the paint storage shed. Because of the limited work area in the vicinity of the shed, no samples could be collected at the requested depth intervals between the shed and the main building. However, soil samples were obtained at two locations in the vicinity of the shed. Analysis was conducted on soil samples obtained during the installation of Monitoring Well 3 and Boring 9. In addition, information regarding the occurrence and distribution of volatiles in the vicinity of the paint shed was obtained during the soil gas survey.

(3b) As part of the cleanup plan, DRAI proposes the collection of subsurface-soil samples adjacent to the three sides of the UGST which have not been sampled. These samples would be obtained from borings completed through the floor of the building under which the tank is located. Since it is not feasible and would not serve any purpose to remove the UGST which is located under the building, the purpose of the soil samples is to document the soil quality in the vicinity of the tank.

(4) All soil samples obtained during site investigations conducted in conjunction with the February and May NJDEP correspondence were collected in discrete 6-inch increments.

3.2 Additional Requirements

(1) All sampling procedures conducted during the site investigations were performed in accordance with the ECRA sampling plan guide.

(2a) Results of all soil and ground-water analysis are provided on the following tables.

(2b) Figures 1 through 3 have been included in the attached, proposed cleanup plan to depict locations of contaminant concentrations. In addition, a cross section map is provided as Figure 8, as requested.

(2c) All analysis performed during all sampling episodes at the investigation site have included an NJDEP Tier II deliverables package.

PROPOSED SOIL AND GROUND-WATER CLEANUP PLAN
SELECTO-FLASH
WEST ORANGE, NEW JERSEY

1.0 INTRODUCTION

The Site Evaluation Submission (SES), submitted to NJDEP by Dan Raviv Associates, Inc. (DRAI) on behalf of Selecto-Flash Inc., outlined areas of environmental concern requiring sampling and/or cleanup work. The paved parking lot area, on the western side of the property, was included as the main area of concern due to:

- (1) the presence of a paint solvent storage area, a catch basin and a french drain system running along the western edge of the property; and
- (2) the presence of a site, formerly operated by Biddleman Inc. and currently under ECRA investigation, also along the western property line.

Extensive sampling was performed by DRAI at Selecto-Flash in order to determine the extent of soil and ground-water contamination for petroleum hydrocarbons (PHC) and volatile organic compounds (VOC). The sampling work included the following:

- (1) subsurface soil sampling in January and April 1987 and July 1988 by DRAI; and
- (2) drilling of two additional wells and ground-water sampling at all the four wells in August 1988.

Results indicated that the main contaminants were tetrachloroethylene (PCE), trichloroethylene (TCE) and PHC's. The contamination was more prominent in the southern half of the parking lot. The values were elevated, particularly along the western border and around the catch basin and paint solvent storage area.

The high values of TCE and certain other volatiles were attributed to possible spills around the paint storage area near the catch basin and french drain system. The presence of PCE, however, could not be attributed to the subject property, since Selecto-Flash has never handled or stored PCE on the site. The neighboring site, as mentioned before, has been under ECRA investigation and, as a supplier to the dry cleaning industry, was known to have used and stored PCE. Specifically, this neighboring site had an aboveground storage tank (AGST) for storing PCE, and an underground storage tank (UGST) for fuel oil, both of which were removed a short time ago. The conditions which prevailed on the subject site and the ground-water flow in the area (west to east) have lead DRAI to believe that the PCE contamination on the Selecto-Flash site can be reliably traced to the neighboring property.

To further investigate the site, DRAI requested that EA Science and Technology (EA) conduct a Soil Vapor Contaminant Assessment (SVCA) for VOC at the Selecto-Flash site. The assessment measured various locations to determine the concentration of contaminants in the soil vapor at a depth of 5 feet. Sampling points were chosen to cover the entire parking lot area. EA's report on the SVCA is included in Appendix A.

The analytical results of the SVCA investigation identified the presence of TCE and PCE. Of these two compounds, PCE appears to be the predominant contaminant, both in concentration levels and areal content (see Appendix A). Soil contamination is prominent along the western border of the property, around the paint solvent area and near the french drain system. Isocontour maps drawn for individual compounds show the contaminant plume locations and flow directions (See Figure 3).

In summary, DRAI has concluded that soil and ground-water contamination in excess of ECRA guidelines is present on the site. The contamination consists mainly of VOC's and PHC.

The volatile organic compounds detected in the soil and ground-water samples collected at Selecto-Flash are mainly PCE and TCE. Of the two, PCE appears to be the predominant component, both in concentration levels and areal extent. In addition, other chlorinated compounds, such as 1,2-dichloroethylene and vinyl chloride, were also detected at the site at lower concentrations.

It is known that chlorinated hydrocarbons are biodegradable, the degradation sequence being from more chlorinated compounds to less chlorinated compounds. A chart included as Appendix C shows a typical biodegradation sequence, which starts at PCE and leads to vinyl chloride. The intermediate products are TCE, trans and trans 1,2-dichloroethylene and 1,1-dichloroethylene. The process of PCE biodegradation, therefore, can lead to the detection of a spectrum of chlorinated compounds at Selecto-Flash. Since the migration of compounds is a slow process, it would provide a sufficient amount of time for the biodegradation to proceed to a substantial degree.

DRAI believes that the TCE and other volatiles detected at Selecto-Flash are at least partly due to the biodegradation of PCE which migrated from an outside source into the property. At this point, however, it is not possible to determine the exact amount of contamination generated in the manner described above.

In this report, DRAI proposes a soil and ground-water cleanup plan for Selecto-Flash designed to bring the site into compliance with ECRA regulations. Also included are a cost estimate and post-cleanup sampling plan for NJDEP's approval.

2.0 SOIL AND GROUND-WATER SAMPLING RESULTS

The results of soil and ground-water sampling conducted by DRAI at Selecto-Flash during July, August and September 1988 are presented in Appendix B. The report of soil-vapor analysis, conducted by EA, is presented in Appendix A.

3.0 PROPOSED CLEANUP PLAN

The proposed cleanup plan for Selecto-Flash consists of the following:

- (1) Soil cleanup for VOC will be accomplished by installing a soil venting system for the entire parking lot area (Section 4.0).
- (2) Soil will be excavated in a selected area (Figure 7) to remove PHC and VOC contamination; and the French drain system will be removed and replaced (Section 5.0).
- (3) Installation of a synthetic liner at the western border to prevent future contaminant migration.
- (4) Ground-water will be pumped from well MW1 to eliminate localized PHC contamination in ground water (Section 6.0).
- (5) Post-cleaning sampling will be performed to verify the cleanup.

4.0 PROPOSED SOIL VENTING SYSTEM

4.1 Technical Approach.

The principal objective of the soils treatment program for the parking lot area is to reduce the concentrations of VOC to an acceptable level so as to minimize the impact on the underlying aquifer system. Treatment alternatives which were considered include:

- (1) excavation to remove affected soils and subsequent treatment or disposal in an approved secured facility;
- (2) soil flushing with water to accelerate the solubilization of organics; and
- (3) soil venting to remove volatiles by establishing a negative pressure gradient across the contamination zone.

The following factors were taken into consideration in evaluating the feasibility and effectiveness of each alternative:

- (1) overall site cleanup objectives,
- (2) short- and long-term reliability,
- (3) requirements for implementation,
- (4) environmental factors and safety requirements,
- (5) cost effectiveness, and
- (6) regulatory agency acceptance.

Excavation of soils (Alternative 1) at Selecto-Flash is restricted by the proximity of the structures. Also, removal of contaminated soil does not prevent any future contaminant migration to the site from the neighboring property. These restrictions, combined with the high cost and potential liabilities associated with soil excavation and disposal, make this alternative an undesirable solution.

Successful soil flushing with water (Alternative 2) requires contaminants which have reasonably high water solubilities and hydrogeologic conditions which allow water to be effectively introduced and transported throughout the contamination zone. However, due to the confined nature of the local aquifer, water flushing will create a perched water table in the unsaturated zone.

Soil venting or stripping by vacuum (Alternative 3) is effective for contaminants which have reasonable vapor pressure and an air flow which can be induced across the zone of contamination by establishing a pressure gradient. The VOC's found in the soils have a range from low to high vapor pressures. In addition, air permeabilities are significantly higher than liquid permeabilities for the type of overburden at this site.

The only restriction affecting application of this technology at the Selecto-Flash site is compliance with New Jersey's regulations for air emission of VOC. Emission must be controlled or treated to achieve emission limits of 3.5 lbs/hr for total VOC and 0.1 lbs/hr for toxic VOC.

Therefore, the extracted volatiles will be treated by activated charcoal prior to discharge to the atmosphere.

This technology has been demonstrated at other sites and shown to be the most cost and time effective method for removal of VOC from the unsaturated zone. Capital costs are relatively low, requiring the purchase of a vacuum pump system, vacuum recovery wells and a carbon adsorption treatment.

Based on these considerations, we propose a treatment strategy based on soil venting techniques. Implementation of this strategy will provide the desired level of treatment in the most rapid and cost effective manner.

4.2 Proposed Treatment System

DRAI will design, procure and install, start-up, support operations and monitor the soils treatment system proposed below. The preliminary design process for the system described below is predicated on the following assumptions:

- (1) The VOC concentrations identified during the ECRA delineation are a valid representation of actual soil characteristics at the site (Figures 1 and 3). Tetrachloroethylene and TCE are the major volatile components found in the soil.
- (2) VOC emissions from the venting system can be controlled to achieve compliance with New Jersey air regulations.
- (3) Contaminant migration from the neighboring site can be minimized to a sufficient degree by placing an impermeable barrier at the property line.

The recommended soils treatment system consists of a network of horizontal perforated pipelines in the areas of high contamination. These pipelines will be used to extract contaminated vapor from the soil. The pipes will be placed at a depth of 4-5 feet, which is at the top of the confining clay layer. First, trenches will be excavated to the top of the clay layer. Pipelines will be placed in these trenches on a layer of gravel, and soil will be backfilled up to the surface level. The surface of the trench will be lined with an impermeable cover to prevent air leakage. Two, separate, pipeline networks will be constructed with separate vacuum pumps, each covering half of the cleanup area (see Figures 4, 5 and 6).

In addition to the critical assumptions described previously, major design considerations include:

- (1) Design of the soil venting system will be dictated by air permeability of the soil, contaminant vapor pressures and well spacing. Air permeabilities cannot be predicted and must be determined in the field. This will be done during the pilot test phase of the work plan (Section 4.3). Extraction pipes will be more closely located in the areas of higher contamination.

- (2) Implementation of the venting system could create emissions of VOC in excess of state limits. Emission levels can be controlled, however, by regulating air flow rates and by venting from the least concentrated zones first. If subsequent removal rates are below those desired, the air rate will be increased and treatment of discharged air will be initiated.
- (3) In order to minimize any future soil contamination due to leaks or spills in the paint shed area, the french drain system will be excavated and replaced by a pipe connecting the catch basin to the Central Avenue sewer line.
- (4) The amount of contaminant migration from the neighboring site could affect the efficiency of the soil venting system. To minimize this, an impermeable liner will be placed along the western border of the property. This will be done at the time of french drain system excavation work. If the above-mentioned system is inadequate to isolate the site from outside interference, the venting system will be updated to accommodate the additional load.

The major components and deliverables of the proposed system are:

- (1) process design and engineering, including a pilot program to confirm the feasibility of soil venting;
- (2) negotiation of permit approvals for the proposed design;
- (3) purchase, installation and construction of treatment system components;
- (4) start-up and initial operation, including process monitoring; and
- (5) preparation of operating manual and maintenance requirements.

4.3 Work Plan

A two-phase work plan is proposed for implementation of the project.

Phase 1 (2-3 months) - Pilot Test

As described before, the efficiency of the soil venting system is affected by site-specific conditions which can best be predicted in the field. A pilot test will be conducted at Selecto-Flash to gain better understanding of the following:

- (1) air permeability of the soil and vapor extraction rate which can be anticipated;
- (2) amount of air to be extracted and its effect on the efficiency of the system;
- (3) efficiency of the carbon adsorption system for vapor purification; and
- (4) spacing and length of the extraction pipes for optimal results.

Consisting of a single pipeline, 45 feet long, situated 5 feet below the surface and connected to a single vacuum pump through a manifold (see Figure 4), the pilot system will be representative of the actual soil venting system described in Section 4.2. The vapor removal will be monitored before and after the carbon adsorption treatment using a photoionization detector (HNU) at the monitoring holes provided at the discharge line of the vacuum pump. The pilot system will be operated at different air flow rates and their effect on the vapor removal rate will be studied.

The pilot test is intended to provide more accurate design information, thereby avoiding costly and time consuming charges once the system is installed. After the pilot test, the process design will be finalized and approval from NJDEP obtained for installing the system.

Phase 2 (12-24 months)

In the beginning of Phase II, a completed design will be submitted to NJDEP to secure the necessary permits. Once the permits have been obtained, the necessary equipment will be procured, including two vacuum pumps, one or two activated carbon canisters, 2" diameter extraction pipelines (total length, 500 feet), 4" manifold line (total length, 375 feet) and manifold connections. Site preparation work will be conducted, such as excavating trenches to place the pipelines and removal of the french drain system.

The pipelines will be placed in the trenches and backfilled with gravel and soil, as shown in Figure 4. After completion of all the plumbing work, the vacuum pumps and the carbon adsorption system will be installed. Once the system is completed and installed, DRAI will conduct test runs and the system will be started and stabilized. System performance will be monitored periodically.

5.0 SOIL EXCAVATION

Samples collected during the installation of well MW3 show exceptionally high values of PHC compared to the rest of the site. An area measuring 15' x 30' which surrounds MW3 has, therefore, been designated as a "hot spot" for PHC cleanup. DRAI proposes excavation of contaminated soil in this area and verification of the cleanup by post-excavation samples. The total volume of contaminated soil is expected to be approximately 100 cu.yd.

DRAI also proposes excavation and removal of the on-site french drain system on the site. It will be replaced by a pipeline leading to the sewer line. Post-excavation samples will be taken along the drain, and a synthetic liner will be placed along the western boundary of the property to prevent outside contamination from migrating to the site in the future.

The areas of excavation and the sample locations are depicted in Figure 7.

6.0 GROUND-WATER CLEANUP

6.1 Volatile Organic Chemicals

Ground-water sampling at Selecto-Flash indicates that VOC contamination is in excess of ECRA limits in all the samples. The values reported are MW1 (TVOC-0.15 ppm), MW2 (TVOC-0.14 ppm), MW3 (TVOC-0.71 ppm, PCE-0.07 ppm), and, MW4 (TVOC-21.3 ppm, PCE-20 ppm). As indicated by Table IV of this report, the major components detected in all the ground-water samples are PCE, TCE, 1-2 dichloroethylene and vinyl chloride; components believed to be the result of biodegradation of PCE. In well No. 4, about 95% of the total contamination consists of PCE. As previously addressed in this report, the origin of PCE is believed to be the neighboring site located to the west of the site. At this point, DRAI does not propose any ground-water cleanup of VOC at Selecto-Flash for the following reasons:

- (1) Selecto-Flash is not responsible for the cleanup of contamination caused by an outside property.
- (2) To the best of DRAI's knowledge, the Biddleman site does not have any soil/ground-water cleanup system. Any cleanup action performed by Selecto-Flash will only attract more contaminated ground water to the property and is not likely to prove effective.

Therefore, DRAI proposes quarterly monitoring of ground water at Selecto-Flash for volatile organics during and after the soil venting project. This will help DRAI to judge the effectiveness of the venting operations and also to estimate the flow of contaminated ground water onto the site.

6.2 Petroleum Hydrocarbons

The ground-water sampling conducted in August 1988 indicates that PHC contamination exists above the ECRA level of 1 ppm in wells MW1 (4.5 ppm) and MW4 (1.5 ppm).

Monitoring well MW4, in addition to PHC, shows high PCE level of 20 ppm indicating a possible contaminant migration from the neighboring site. DRAI believes that the PHC contamination has also been partly contributed by the neighboring source. The present ground water flow direction, which is from east to west, is probably caused by a presence of a large, open excavation in the adjacent property, west of Selecto-Flash. The high values TCE at Selecto-Flash suggest that prior to the open excavation (believed to have occurred within the past year), the ground water flow was from west to east, that is into Selecto-Flash from it's neighbor to the west. DRAI, therefore, proposes no cleanup for well MW4.

Monitoring well MW1, however, is situated in the immediate vicinity of the 'hot spot' of PHC soil contamination. DRAI proposes pumping of ground water from MW1 to remove the localized ground-water contamination. About

20 drums of water will be pumped in four to five months, which corresponds to about 10 well volumes per week. The contaminated water will be stored in drums and disposed of properly. Quarterly ground-water monitoring will be conducted to verify the cleanup, as described in Section 6.3.

6.3 Ground-Water Sampling

DRAI will conduct ground-water sampling in all four wells every three months to record the progress of soil and ground-water cleanup. The sampling will continue for eight quarters, with a total of 50 samples collected and analyzed for VOC and PHC.

7.0 PROPOSED SUPPLEMENTARY SAMPLING PLAN

A detailed supplementary sampling plan indicating the number of samples to be collected in each area, analysis parameters and the cost of analysis is presented in Table II.

The purpose of this sampling plan is to verify soil and ground water cleanup at the site and to respond to the specific sampling requirements requested by NJDEP in their letter of May 24, 1988.

As requested by NJDEP, DRAI will collect three samples around the UGST at depths of 0-6" below the tank invert and 6 inches above ground water or clay layer depth. These samples will be analyzed for PHC and VOC+15 plus xylene.

8.0 PROJECTED TIME-TABLE FOR CLEANUP

Figure 9 presents a projected time table for completing specific milestones of the cleanup project.

The total estimated time required for the cleanup and verification is two years. The above estimate is, however, subject to changes depending on the site specific conditions and the vapor removal efficiency of the soil venting system.

9.0 COST ESTIMATE

Costs for the project are estimated at \$171,200. Details of the cost estimation are provided in Table I.

ATTACHMENT E



CN 028
Trenton, N.J. 08625-0028

(609)633-7141

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS WASTE MANAGEMENT

Michele M. Putnam
Deputy Director
Hazardous Waste Operations

John J. Trela, Ph.D., Director

Lance R. Miller
Deputy Director
Responsible Party Remedial Action

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

MAY 30 1989

Mr. Edwin Tichenor
Dan Raviv Associates, Inc.
57 East Willow Street
Millburn, NJ 07041

Dear Mr. Tichenor:

RE: Industrial Establishment: Selecto-Flash, Inc. ("Selecto-Flash")
Location: 18 Central Avenue, West Orange Town, Essex County
Block: 7, 9 Lots: 35, 40, 8, 9, 22
Transaction: Sale of Property
Cleanup Plan Dated: November, 1988
ECRA Case #86935

Pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection ("NJDEP") by the Environmental Cleanup Responsibility Act, N.J.S.A. 13:1K-6 et seq. (ECRA), and duly delegated to the Assistant Director of the Industrial Site Evaluation Element pursuant to N.J.S.A. 13:1B-4, the above referenced Cleanup Plan submitted on behalf of Selecto-Flash is hereby approved by NJDEP as conditioned attached below:

Ground Water

1. The ground water proposal by Dan Raviv Associates, Inc. ("DRAI") for this facility is conditionally acceptable as outlined below.
 - A. A NJPDES Discharge to Ground Water permit shall be drafted for this facility. It shall require quarterly monitoring of the ground water in all four wells. The parameters for analyses shall include Volatile Organic Compounds ("VOCs"), Petroleum Hydrocarbons ("PHC"), Total Dissolved Solids ("TDS") and pH. A ground water contour map shall be generated for each sampling round.

Soil

2. The proposal for the soils remediation is conditionally acceptable as follows.
 - a. Selecto-Flash shall provide detailed construction plans within thirty (30) days upon receipt of this letter, regarding the "impermeable western, property line barrier" to the Cleanup Oversight case manager.
3. While the soil gas venting system is an acceptable remedial method, further information regarding implementation of the system is required. Therefore, Selecto-Flash shall submit, within thirty (30) days upon receipt of this letter, a detailed work plan for the venting system. This work plan shall include but not be limited too: a schedule of phases of implementation, details regarding construction and location on site of the system, specifications of the pumping equipment, the air discharge treatment design, and the locations of field monitoring sampling units included to assess the effectiveness of the system. Please note that the implementation of the venting system is contingent upon the acquisition of a Discharge to Air Permit.
4. The excavation and post-excavation proposals are acceptable for all areas of soil excavation.
5. The proposal for the "under-building, underground storage tank ("UGST") is acceptable.
6. Selecto-Flash shall comply with all federal, state and local laws, regulations and ordinances in implementing the approved Cleanup Plan.
7. Selecto-Flash shall obtain all federal, state and local permits prior to implementation of the approved Cleanup Plan. Should any conditions or limitation of said permits be more stringent than those in the approved Cleanup Plan, then said permit requirements shall supersede the terms of this approval.
8. Upon the written request of NJDEP Selecto-Flash shall submit for NJDEP review and approval any additional sampling plans deemed necessary by NJDEP during the implementation of a Cleanup Plan to fully delineate the nature and extent of environmental contamination on or from Selecto-Flash. Selecto-Flash shall implement and complete any such additional Sampling Plans, and submit the results thereof, in accordance with the timeframe set forth in the approved additional Sampling Plan. Furthermore, Selecto-Flash shall prepare and submit to NJDEP for approval, any revisions to the Cleanup Plan necessary to remediate any additional environmental contamination on or from Selecto-Flash as identified during the cleanup plan implementation, by any additional sampling, or from any other source. Selecto-Flash shall revise and submit the required information within a reasonable time not to exceed thirty (30) calendar days from receipt of written notification from NJDEP.

9. The ECRA requirement for remediation of all environmental contamination on or from Selecto-Flash and the terms and conditions of the approved Cleanup Plan shall be binding upon Selecto-Flash, and its officers, management officials, successors in interest, assigns, tenants and any trustee in bankruptcy or receiver appointed pursuant to a proceeding in law or equity.
10. Selecto-Flash shall provide, within fourteen (14) days of receipt of this Cleanup Plan approval, financial assurance in the amount of \$175,000.00 as specified in the Cleanup Plan, in accordance with the regulatory requirements of N.J.A.C. 7:26B-6. Furthermore, Selecto-Flash shall maintain the required financial assurance until NJDEP conducts a final inspection pursuant to N.J.A.C. 7:26B-5.7 and NJDEP issues Selecto-Flash a written notification that the Cleanup Plan has been fully implemented to NJDEP's satisfaction.
11. Selecto-Flash shall provide written notification of the completion of the Transaction which subjected the Industrial Establishment to ECRA within seven (7) days of its occurrence.
12. Selecto-Flash shall prepare and submit to NJDEP monthly written progress reports detailing the implementation of the Cleanup Plan.
13. Selecto-Flash shall prepare and submit a final written report detailing the actual cleanup actions performed and final cleanup costs including overhead, compared to the cleanup actions, schedule and costs approved in the Cleanup Plan. The report should also include dates of cleanup activities, additional sampling results and other pertinent information.
14. Selecto-Flash shall provide, within fourteen (14) calendar days of receipt of this Cleanup Plan approval, oversight fees in the amount of \$7,000.00, based on the cost of the cleanup, in accordance with the regulatory requirements of N.J.A.C. 7:26B-1.10.
15. Selecto-Flash shall provide, within fourteen (14) days of receipt of this conditional Cleanup Plan approval, a schedule committing Selecto-Flash to begin implementation of this conditionally approved Cleanup Plan within sixty (60) days upon receipt of this conditionally approved Cleanup Plan.

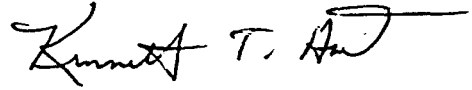
NJDEP's approval, as conditioned above, is limited to the above referenced Cleanup Plan only. This Cleanup Plan approval shall not limit, restrict or prohibit NJDEP from directing on-site or off-site cleanup, if deemed necessary by NJDEP, under any other statute, rule or regulation.

9. The ECRA requirement for remediation of all environmental contamination on or from Selecto-Flash and the terms and conditions of the approved Cleanup Plan shall be binding upon Selecto-Flash, and its officers, management officials, successors in interest, assigns, tenants and any trustee in bankruptcy or receiver appointed pursuant to a proceeding in law or equity.
10. Selecto-Flash shall provide, within fourteen (14) days of receipt of this Cleanup Plan approval, financial assurance in the amount of \$175,000.00 as specified in the Cleanup Plan, in accordance with the regulatory requirements of N.J.A.C. 7:26B-6. Furthermore, Selecto-Flash shall maintain the required financial assurance until NJDEP conducts a final inspection pursuant to N.J.A.C. 7:26B-5.7 and NJDEP issues Selecto-Flash a written notification that the Cleanup Plan has been fully implemented to NJDEP's satisfaction.
11. Selecto-Flash shall provide written notification of the completion of the Transaction which subjected the Industrial Establishment to ECRA within seven (7) days of its occurrence.
12. Selecto-Flash shall prepare and submit to NJDEP monthly written progress reports detailing the implementation of the Cleanup Plan.
13. Selecto-Flash shall prepare and submit a final written report detailing the actual cleanup actions performed and final cleanup costs including overhead, compared to the cleanup actions, schedule and costs approved in the Cleanup Plan. The report should also include dates of cleanup activities, additional sampling results and other pertinent information.
14. Selecto-Flash shall provide, within fourteen (14) calendar days of receipt of this Cleanup Plan approval, oversight fees in the amount of \$7,000.00, based on the cost of the cleanup, in accordance with the regulatory requirements of N.J.A.C. 7:26B-1.10.
15. Selecto-Flash shall provide, within fourteen (14) days of receipt of this conditional Cleanup Plan approval, a schedule committing Selecto-Flash to begin implementation of this conditionally approved Cleanup Plan within sixty (60) days upon receipt of this conditionally approved Cleanup Plan.

NJDEP's approval, as conditioned above, is limited to the above referenced Cleanup Plan only. This Cleanup Plan approval shall not limit, restrict or prohibit NJDEP from directing on-site or off-site cleanup, if deemed necessary by NJDEP, under any other statute, rule or regulation.

Selecto-Flash is hereby required to fully implement the referenced Cleanup Plan, as conditioned above, in accordance with the time schedule as set forth therein.

Sincerely,



s Karl J. Delaney, Assistant Director
Industrial Site Evaluation Element

RMD/cam

c: Tina O'Brien, BEAC
Mark Yannett, BEERA
Rob Lux, BGWDC

ATTACHMENT F

Selecto-Flash, Inc.
West Orange, New Jersey

Item #16 - Results of Soil Sampling and Analysis - January 1987

On January 21, 1987, Dan Raviv Associates, Inc. (DRAI) implemented the sampling plan proposed in Item #14 of the previously filed ECRA II Submission. Borings were completed by Jersey Boring and Drilling of Newark, New Jersey. No deviations from the sampling plan methodology or protocols were experienced, with the exception that no samples were collected from Area of Concern #1, depicted on Figure 14.1 (previously submitted). Chemical analysis of the soil samples was performed by S-R Analytical of Cherry Hill, New Jersey. A copy of S-R Analytical's laboratory report is provided as Attachment 16.A.

With the exception of the background sample, all of the samples were collected in Area of Concern #2 (Figure 14.1).

Summarized, analytical results are provided on the following tables:

Table 16.I - Results of Volatile Organic Analysis of
Soil Samples

Table 16.II - Results of Petroleum Hydrocarbon Analysis
of Soil Samples

Volatile Organic plus 15 Non-Targetted Compounds (VOC's)

The compounds Ethylbenzene and an unknown, non-targetted volatile, with a scan number of 331 identified in the laboratory method blank, have been attributed to laboratory contamination and have not been included in the discussion of volatile organic compounds detected at the investigation site. In addition, the non-targetted volatile 2-propanone, identified in the travel blank and some soil samples, is believed to be the result of laboratory contamination and/or sampling equipment decontamination and is also not included in the following discussion. Additional sampling, designed to verify cleanup activities, will include volatile organic compound analysis. Results of these analyses will clarify whether the ethylbenzene, 2-propanone and the unknown non-targetted compound (331) are actually on site or are the result of decontamination/ laboratory methodology.

Two samples, collected west of the paint and solvent storage shed, exhibited levels of volatile organic compounds in excess of the ECRA action guideline of 1 part per million (ppm).

Identified in sample 2(5)/0-2' are the compounds tetrachloroethylene (PCE) at 6.7 ppm and toluene at 11.3 ppm. Sample 2(6)/0-2' exhibited levels of tetrachloroethylene (PCE) at 4.1 ppm, toluene at 14 ppm and xylenes at 19 ppm. In addition, an isomer of the non-targetted compound dimethylbenzene was detected at 26 ppm.

Samples 2(1), 2(2), 2(3), 2(4) are associated with the french drain system, located in the parking lot west of the building. All samples collected from the french drain system exhibited volatile organic concentrations at or in excess of the ECRA action guidelines. Volatile organics were identified in samples collected from the system are trans-1,2 dichloroethylene, TCE, xylene, toluene and tetrachloroethylene (PCE).

The location of sample 2(1) is at the beginning of the french drain system. The sampling intervals began at a horizon equal to the bottom of the catch basin and extended to a depth of two feet. This soil sample exhibited a concentration of 18 ppm of TCE and 2.2 ppm of trans-1,2 dichloroethylene, a degradation product of TCE. In addition, PCE was detected at less than 1 ppm. Water entering the catch basin flows from sampling point 2(1) to sampling point 2(2), and continues in a northerly direction towards Central Avenue. At sampling point 2(2) the underground pipe which drains the catch basin discharges into a gravel bed. This bed extends along the western border of the property, from sampling point 2(2) to sampling point 2(4).

Samples collected at 2(2), at an interval 0-2' below the gravel bed, indicate toluene is present at 1.4 ppm, xylenes at 1.2 ppm and PCE at less than 1 ppm. At the same location, at a horizon 2-4' feet below the gravel bed, toluene was detected at less than 1 ppm and PCE at 4.5 ppm.

The next sampling point downstream of 2(2) is 2(3). A sample collected from the base to two feet below the gravel bed showed a concentration of 1 ppm of PCE and no other volatile compounds. The sampling interval from 2-4' below the bed was collected in duplicate. The results of these analyses indicate no volatile organics detected with duplicate results of 1.5 ppm for PCE and toluene at less than 1 ppm.

The final sampling point, and the most downstream in the french drain system, is 2(4). PCE was detected at 20 ppm at the interval collected from the base to 2 feet below the gravel bed and at 4 ppm from 2-4' below the bed.

A background sample was collected in an unpaved parking lot located south of the building. Volatile organic analysis performed on the 2-4' interval (below grade) indicated only ethylbenzene to be present at 0.6 ppm and an unknown, non-targetted compound (scan number 330) at 0.9 ppm. Both of these compounds have been attributed to laboratory contamination.

Petroleum Hydrocarbon (PHC)

Petroleum hydrocarbon analysis was conducted at both sampling points located west of the paint storage shed. Samples 2(5)/0-2' and 2(6)/0-2' had PHC concentrations of 1,500 ppm and 120 ppm, respectively, which are in excess of the ECRA action guideline for petroleum hydrocarbons in soil of 100 ppm.

Soil sample analysis for petroleum hydrocarbons conducted along the french drain system resulted in the following concentrations: 2(1)/0-2' below the bottom of the catch basin, 610 ppm; 2(3)/2-4' below the gravel bed, 100 ppm; and 2(4)/2-4' below the bed, 300 ppm with a field duplicate of 280 ppm.

A soil sample collected from the background location at 0-2' (below grade) had a petroleum hydrocarbon concentration of 68 ppm. No other soil samples collected from the investigation site were analyzed for PHC's.

Conclusions

Paint and Solvent Storage Shed Area

The two samples collected in the vicinity of the paint and solvent storage shed [2(5) and 2(6)] showed volatile organic and petroleum hydrocarbon concentrations in excess of ECRA cleanup action levels. These sampling points had been targetted for analyses based on visual staining observed on the unpaved surface of the ground. The compounds detected are probably the result of spillage of materials stored in this area.

French Drain System

The catch basin, located east of the paint and solvent storage shed and in the vicinity of sampling point 2(1), drains an area of the parking lot where drums of waste solvent are stored. This area was targetted for analysis since there were visual

indications of minor spillage and a oil sheen on the parking lot. The catch basin, which drains this area of the parking lot is the collection point for water entering the french drain system. It appears that the TCE and the degradation product trans-1,2 dichloroethylene have entered the system and escaped from the catch basin into the surrounding soil. Toluene and xylene present at sampling point 2(2), also appear to be a result of parking lot runoff, as are the petroleum hydrocarbons detected within the french drain system. At sampling point 2(4), however, PHC's may be the result of water from Central Avenue backing up into the french drain system.

Mr. James Peepas, President of Selecto-Flash has indicated that tetrachloroethylene (PCE) is not now and never has been used in operations at the facility. A review of the material safety data sheets confirms this. However, PCE was detected in all soil samples from the site, with the exception of the background location. Concentration values for this compound range from less than 1 to 20 ppm.

Table 16.I
Summary of Volatile Organic Compounds in Soil
Selecto-Flash, Inc. - West Orange, New Jersey

| | | | | |
|---------------------|--------|-----------|-----------|-----------|
| Lab Sample Number: | Method | SR13610-2 | SR13610-3 | SR13610-4 |
| DRAI Sample Number: | Blank | BG 2-4' | 2(1) 0-2' | 2(2) 0-2' |
| Analyzed By: | S-R | S-R | S-R | S-R |
| (Background) | | | | |

VOLATILE ORGANIC
COMPOUNDS:

Concentrations in ppb

| | | | | |
|----------------------------|--------|-----|-------|---------|
| Chloromethane | ND (1) | ND | ND | ND |
| Bromomethane | | | | |
| Vinyl Chloride | | | | |
| Chloroethane | | | | |
| Methylene Chloride(5) | | | | |
| 1,1-Dichloroethene | | | | |
| 1,1-Dichloroethane | | | | |
| 1,2-trans-dichloroethene | | | ND | |
| Chloroform | | | 2200 | |
| 1,2-Dichloroethane | | | ND | |
| 1,1,1-Trichloroethane | | | | |
| Carbon tetrachloride | | | | |
| Bromodichloromethane | | | | |
| 1,2-Dichloropropane | | | | |
| trans 1,3-Dichloropropene | | | ND | |
| Trichloroethylene | | | 18000 | |
| Dibromochloromethane | | | ND | |
| Benzene | | | | |
| 1,1,2-Trichloroethane | | | | |
| cis 1,3-Dichloropropene | | | | |
| 2-Chloroethyl vinyl ether | | | | |
| Bromoform | | | | |
| 4-Methyl-2-pentanone(MIBK) | | | | |
| 1,1,2,2-Tetrachloroethane | | | ND | ND |
| Tetrachloroethene | | | 770 | 600 |
| Toluene(4) | | | ND | 1400 |
| Chlorobenzene | ND | ND | ND | ND |
| Ethyl benzene(3) | 240(2) | 610 | 620 | 1000 |
| Total Xylenes | ND | ND | ND | 1200(2) |

| | | | | |
|----------------------------|-----|-------|----------|---------|
| Total Targetted Volatiles: | 240 | ND(4) | 20970(4) | 3200(4) |
|----------------------------|-----|-------|----------|---------|

| | | | | |
|--|-----|-------|----------|---------|
| Total Targetted & Non-Targetted Volatiles: | 680 | ND(4) | 20970(4) | 3200(4) |
|--|-----|-------|----------|---------|

- (1) ND - Not detected. Refer to laboratory data sheets for Method Detection Limit (MDL).
 (2) Constituent detected below the MDL, quantification is approximate.
 (3) Compound found in method blank.
 (4) Compounds detected in method blank not included in total.
 (5) Identification of this Compound at low levels is sometimes attributed to laboratory contamination.

Dan Raviv Associates, Inc.
Job No. 86C367

ATTACHMENT I-7

Table 16.I (cont'd)
Summary of Volatile Organic Compounds in Soil
Selecto-Flash, Inc. - West Orange, New Jersey

| | | | |
|---------------------|-----------|------------|-----------|
| Lab Sample Number: | SR13610-5 | SR131610-6 | SR13610-7 |
| DRAI Sample Number: | 2(2) 2-4' | 2(3) 0-2' | 2(3) 2-4' |
| Analyzed By: | S-R | S-R | S-R |

VOLATILE ORGANIC
COMPOUNDS:

Concentrations in ppb

| | ND | ND | ND |
|-----------------------------|------|-----|-----|
| Chloromethane | ND | ND | ND |
| Bromomethane | | | |
| Vinyl Chloride | | | |
| Chloroethane | | | |
| Methylene Chloride(5) | | | |
| 1,1-Dichloroethene | | | |
| 1,1-Dichloroethane | | | |
| 1,2-trans-dichloroethene | | | |
| Chloroform | | | |
| 1,2-Dichloroethane | | | |
| 1,1,1-Trichloroethane | | | |
| Carbon tetrachloride | | | |
| Bromodichloromethane | | | |
| 1,2-Dichloropropane | | | |
| trans 1,3-Dichloropropene | | | |
| Trichloroethylene | | | |
| Dibromochloromethane | | | |
| Benzene | | | |
| 1,1,2-Trichloroethane | | | |
| cis 1,3-Dichloropropene | | | |
| 2-Chloroethyl vinyl ether | | | |
| Bromoform | | | |
| 4-Methyl-2-pentanone (MIBK) | | | |
| 1,1,2,2-Tetrachloroethane | ND | ND | |
| Tetrachloroethene | 4500 | 970 | |
| Toluene(5) | 720 | ND | |
| Chlorobenzene | ND | ND | ND |
| Ethyl benzene(3) | 730 | 570 | 560 |
| Total Xylenes | ND | ND | ND |

| | | | |
|----------------------------|---------|--------|-------|
| Total Targetted Volatiles: | 5220(4) | 970(4) | ND(4) |
|----------------------------|---------|--------|-------|

| | | | |
|--|---------|-----------|-------|
| Total Targetted & Non-Targetted Volatiles: | 5220(4) | 970(4)(6) | ND(4) |
|--|---------|-----------|-------|

(6) Acetone is attributed to sampling equipment decontamination and is not included in total.

Table 16.I (cont'd)
Summary of Volatile Organic Compounds in Soil
Selecto-Flash, Inc. - West Orange, New Jersey

| | | | |
|---------------------|-----------|-----------|------------|
| Lab Sample Number: | SR13610-8 | SR13610-9 | SR13610-11 |
| DRAI Sample Number: | 2(3) 2-4' | 2(4) 0-2' | 2(4) 2-4' |
| Analyzed By: | S-R | S-R | S-R |
| (Field Duplicate) | | | |

VOLATILE ORGANIC
COMPOUNDS:

Concentrations in ppb

| | | | |
|-----------------------------|--------|-------|------|
| Chloromethane | ND | ND | ND |
| Bromomethane | | | |
| Vinyl Chloride | | | |
| Chloroethane | | | ND |
| Methylene Chloride (5) | | | 400 |
| 1,1-Dichloroethene | | | ND |
| 1,1-Dichloroethane | | | |
| 1,2-trans-dichloroethene | | | |
| Chloroform | | | |
| 1,2-Dichloroethane | | | |
| 1,1,1-Trichloroethane | | | |
| Carbon tetrachloride | | | |
| Bromodichloromethane | | | |
| 1,2-Dichloropropane | | | |
| trans 1,3-Dichloropropene | | | |
| Trichloroethylene | | | |
| Dibromochloromethane | | | |
| Benzene | | | |
| 1,1,2-Trichloroethane | | | |
| cis 1,3-Dichloropropene | | | |
| 2-Chloroethyl vinyl ether | | | |
| Bromoform | | | |
| 4-Methyl-2-pentanone (MIBK) | | | |
| 1,1,2,2-Tetrachloroethane | ND | ND | ND |
| Tetrachloroethene | 1500 | 20000 | 4000 |
| Toluene (5) | 330(2) | ND | ND |
| Chlorobenzene | ND | ND | ND |
| Ethyl benzene (3) | 590 | 470 | 480 |
| Total Xylenes | ND | ND | ND |

| | | | |
|---|---------|-------------|---------|
| Total Targetted Volatiles: | 1830(4) | 20000(4) | 4000(4) |
| Total Targetted & Non-Targetted Volatiles: | 1830(4) | 20000(4)(6) | 4000(4) |

Dan Raviv Associates, Inc.
Job No. 86C367

ATTACHMENT I-9

Table 16.I (cont'd)
Summary of Volatile Organic Compounds in Soil
Selecto-Flash, Inc. - West Orange, New Jersey

| | | | | |
|---------------------|------------|------------|-------------------------|--------------------------|
| Lab Sample Number: | SR13610-12 | SR13610-13 | SR13610-14 | SR13610-15 |
| DRAI Sample Number: | 2(5) 0-2' | 2(6) 0-2' | SFFB | SFTB |
| Analyzed By: | S-R | S-R | S-R (Field Blank) | S-R (Travel Blank) |

VOLATILE ORGANIC
COMPOUNDS:

Concentrations in ppb

| | | | | |
|-----------------------------|----------|----------|----|-----|
| Chloromethane | ND | ND | ND | ND |
| Bromomethane | | | | |
| Vinyl Chloride | | | | |
| Chloroethane | | | | |
| Methylene Chloride (5) | | | | |
| 1,1-Dichloroethene | | | | |
| 1,1-Dichloroethane | | | | |
| 1,2-trans-dichloroethene | | | | |
| Chloroform | | | | |
| 1,2-Dichloroethane | | | | |
| 1,1,1-Trichloroethane | | | | |
| Carbon tetrachloride | | | | |
| Bromodichloromethane | | | | |
| 1,2-Dichloropropane | | | | |
| trans 1,3-Dichloropropene | | | | |
| Trichloroethylene | | | | |
| Dibromochloromethane | | | | |
| Benzene | | | | |
| 1,1,2-Trichloroethane | | | | |
| cis 1,3-Dichloropropene | | | | |
| 2-Chloroethyl vinyl ether | | | | |
| Bromoform | | | | |
| 4-Methyl-2-pentanone (MIBK) | | | | |
| 1,1,2,2-Tetrachloroethane | ND | ND | | |
| Tetrachloroethene | 6700 | 4100 | | |
| Toluene(5) | 11300 | 14000 | | |
| Chlorobenzene | ND | ND | | |
| Ethyl benzene(3) | 710 | 3200(2) | | |
| Total Xylenes | | 19000 | ND | ND |
| Total Targetted | | | | |
| Volatiles: | 18000(4) | 37100(4) | ND | ND |
| Total Targetted & | | | | |
| Non-Targetted Volatiles: | 18000(4) | 63100(4) | ND | 5.7 |

Dan Raviv Associates, Inc.
Job No. 86C367

ATTACHMENT 1-10

BRACH, EICHLER, ROSENBERG, SILVER, BERNSTEIN, HAMMER & GLADSTONE

A PROFESSIONAL CORPORATION

COUNSELLORS AT LAW

101 EISENHOWER PARKWAY

ROSELAND, N. J. 07068

(201) 228-5700

TELECOPIER
(201) 228-7852

60 EAST 42ND STREET
SUITE 520
NEW YORK, N.Y. 10165
(212) 953-9110

WILLIAM J. FRIEDMAN ◻
JOHN J. MIESOWITZ
BRUCE KLEINMAN ◻
CHARLES X. GORMALLY
SAMUEL N. FAIVUS *
JULES FARKAS
JOHN D. FANBURG *
JEAN E. SKRIPEK
ALEXANDER J. TAFRO
JAMES T. DAVIS II
ROBIN L. GOLDFISCHER ◻
DAVID A. MEBANE *
JONATHAN H. BARKHORN *

STEVEN S. POLINSKY
TODD C. BROWER
BRIAN R. LENKER
BARBARA S. MURRAY
ALOIS V. HABJAN ◻
ANNA L. HACKMAN ◻
MICHAEL I. SCHNECK
MARK A. LUSTBADER
JOHN F. BARON *
DAVID B. KAHAN †
DAVID S. BERNSTEIN
ROBIN S. LAZAROW
GEORGETTE J. SIEGEL
BARRY M. SCHWARTZ *

WILLIAM L. BRACH
BURTON L. EICHLER *
PAUL ROSENBERG
ALAN H. BERNSTEIN
STUART M. GLADSTONE *
HARRIS R. SILVER
LANCE A. POSNER *
GEORGE Y. SODOWICK
ALAN R. HAMMER *
BARRY H. OSTROWSKY
LEONARD J. WITMAN *
RICHARD J. DRIVER
DAVID J. RITTER
JOSEPH M. GORRELL *
GARY D. STADTMAUER *

* N. J. & N. Y.
◻ N. J. & PA.
△ N. J., N. Y. & FLA.
◻ N. J., N. Y. & D. C.
◻ N. J. & D. C.
† MD. & VA. ONLY

PLEASE RESPOND TO ROSELAND OFFICE

July 20, 1989

VIA FEDERAL EXPRESS

Mr. Karl J. Delaney
Assistant Director
Industrial Site Evaluation Element
N.J. Department of Environmental Protection
401 East State Street
5th Floor
Trenton, New Jersey 08625-0028

Re: Response to July 7, 1989 Letter
Regarding Selecto-Flash, Inc.
18 Central Avenue
West Orange, New Jersey
ECRA Case No. 86935

Dear Mr. Delaney:

I write this letter on behalf of Selecto-Flash, Inc. in response to the July 7, 1989 letter which was sent by Kenneth T. Hart, Chief of the Bureau of Environmental Evaluation and Cleanup Responsibility Assessment. Mr. Hart's letter was in response to my earlier June 13, 1989 letter to you regarding the scheduling for implementation of the cleanup plan by Selecto-Flash, Inc. in ECRA Case No. 86935.

Frankly, I was quite disappointed to note that Mr. Hart's July 7 letter not only imposed very strict, unrealistic time deadlines upon Selecto-Flash for carrying out its cleanup plan, but also did not take the time to respond to any of the points raised in my earlier letter. Therefore, I will take this opportunity to expand upon and amplify my earlier comments and to request a reconsideration of Mr. Hart's decision.

ATTACHMENT _____

Mr. Karl J. Delaney
July 20, 1989
Page 2

This case has been marked by repeated, unreasonable and unexplained delays on the part of DEP. At the time that we initiated this ECRA case, in November 1986, Selecto-Flash had a buyer under contract who was ready and willing to move forward with the transaction, but who was not willing to accept the property under the terms of an Administrative Consent Order without having a firm handle on the extent of contamination or the probable cost of remediation. Consequently, we proceeded to work our way through the ECRA process as expeditiously as possible.

However, in March 1987, when our ECRA Initial Notice was deemed complete, we were forced to wait nearly eight months for the appointment of a case manager. While waiting, we performed at-risk sampling which was submitted to the DEP on May 6, 1987. We did not receive a review of our sampling plan until over a year later, on May 24, 1988. In October 1987, DEP conducted a site inspection at the Selecto-Flash site. A report of that site inspection was not received until March 1988, some four and one-half months later. In November 1988, we submitted a cleanup plan for the Selecto-Flash site. Despite assurances from DEP of a two-month turnaround for cleanup plan review, and despite the fact that DEP accepted the cleanup plan with no modifications, we did not receive any reply to our cleanup plan submission for over six months, when it was approved on May 30, 1989.

These excessive delays in the ECRA process caused our buyer to finally lose patience after more than two years of waiting and to pull out of the deal earlier this year. Without a contract buyer in place, it has become extremely difficult, if not impossible, to meet the significant financial commitments required to immediately begin implementation of the cleanup plan. Nevertheless, Selecto-Flash is committed to selling its property (while remaining on site in a lease situation) as a business necessity and we are committed to implementing our cleanup plan. Consequently, we are continuing to pursue a sale of the subject property, and we are now hopeful that a signed contract will shortly be in place.

Despite the fact that my earlier letter explained the predicament of Selecto-Flash and requested a 90-day extension of the date for beginning cleanup plan implementation, in order to provide time for Selecto-Flash to enter into a new sale contract, Mr. Hart's reply letter contained no discussion of the arguments raised in my letter or any explanation for granting an extremely short and

ATTACHMENT 

Mr. Karl J. Delaney

July 20, 1989

Page 3

impractical ten-day period for putting financial assurances in place and implementing the cleanup plan. I believe that my prior request was reasonable and I respectfully ask that you reconsider it.

One other very important matter should be brought to your attention. The Selecto-Flash property is directly adjacent to an area of significant contamination on the neighboring Biddelman property. The two properties are separated only by a chain link fence. The Biddelman site has also been undergoing ECRA review for the past several years (ECRA Case No. 86699). Our technical consultant, Dan Raviv Associates, has documented through exhaustive testing that the great majority of contamination on the Selecto-Flash property has migrated from the adjacent Biddelman property, where large amounts of dry cleaning solvent were packaged and spilled. This clear evidence has been provided to DEP and has not been refuted by any party.

I have made numerous requests of the Biddelman case manager and other DEP officials to require Biddelman to remediate the contamination which it has caused to the Selecto-Flash site as part of the Biddelman ECRA case. As you know, it is the firm policy of the Industrial Site Evaluation Element that an owner or operator subject to ECRA is responsible not only for contamination on the industrial establishment itself, but also for all off-site contamination caused by and emanating from that industrial establishment. Nevertheless, DEP has refused to take any action in the Biddelman ECRA case relating to the contamination to the Selecto-Flash property. DEP has even refused my request to convene a coordinated meeting on the two sites. As a consequence, we have been forced to initiate litigation against Biddelman.

I will appreciate your careful consideration of the issues raised in this letter. It is not our intent to create unnecessary or unreasonable delay in the ECRA process. However, after waiting two and one-half years for ECRA approvals, through lengthy delays that were in no way our fault, I consider it highly unreasonable to be ordered to arrange to put in place significant and fairly complex financial assurances within a 10 or a 14 day period. I also do not believe that it is reasonable, proper or justified for DEP to order immediate implementation of a cleanup plan when no triggering ECRA transaction exists, especially when the collapse of a previous pending transaction was caused by the delays of DEP. I reiterate

ATTACHMENT F-3

Mr. Karl J. Delaney

July 20, 1989

Page 4

my earlier request that Selecto-Flash be granted a 90-day or longer suspension of the compliance dates set forth in your May 30 letter, in order to afford Selecto-Flash a reasonable period of time in which to enter into a new contract and obtain the financial means to satisfy your financial assurance requirements.

I appreciate your anticipated cooperation in this matter.

Yours truly,



WILLIAM J. FRIEDMAN

WJF/rf

009

cc: James Peepas, Selecto-Flash
Frank Russin, Selecto-Flash
Kenneth T. Hart, DEP
Chris Hylemon, DEP
Dan Raviv, DRAI
Alan R. Hammer, Esq.

ATTACHMENT G

Let's protect our earth



David
F.Y. I-File
JA

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ENVIRONMENTAL CLAIMS ADMINISTRATION

DAVID C. MACK, ADMINISTRATOR
CN 402
TRENTON, N.J. 08625-0402
(609) 633-2947
Fax # (609) 292-0988

OCT 24 1990

25
Mr. S. A. Savitt
Savitt and Associates
1050 Beerge Street
New Brunswick, NJ 08901

Re: Damage Claim #: 88-0023
Claimant: Selecto-Flash, Inc.

Dear Mr. Savitt:

This is to notify you that Selecto-Flash, Inc., which owns commercial property at 18 Central Avenue, West Orange, New Jersey, has filed a damage claim with the New Jersey Spill Compensation Fund. This is for costs incurred in the amount of approximately \$100,000 as well as for future expenditures at the property due to the discharge of a hazardous substance on Selecto-Flash's property emanating from the Biddleman, Inc. property.

According to documentation in the files of the New Jersey Department of Environmental Protection, your client, Biddleman, Inc., is considered to be the responsible party and, as such, I am informing you of the alleged damages as set forth in the above claim.

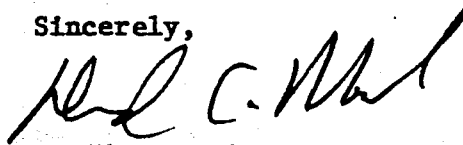
Pursuant to N.J.S.A. 58:10-23.11(1), the Administrator shall attempt to promote and arrange a settlement between the claimant and the responsible party. I urge your client to contact the claimant directly to discuss the terms of a claim's settlement at your earliest opportunity. If needed, the Spill Fund will assist in arranging a settlement conference between the claimant and your client.

Please be advised that if your client or any other person contest the validity or amount of the damage claim as presented to the Spill Fund for payment, the Administrator will convene a Board of Arbitration. N.J.S.A. 58:10-23.11n provides for arbitration only on the issues of the amount and/or validity of the claim; the liability of the discharger is not an issue in the arbitration process. This is consistent with the purpose of the Spill Fund, which is to provide timely compensation to innocent victims of hazardous contamination prior to the often lengthy process of assessing responsibility for the incident of contamination. Accordingly, the issue of the liability of the discharger is only pertinent in an action by the Spill Fund to recover its costs in paying claims, which actions are in exercise of the subrogation rights obtained by the Fund from successful claimants.

Unless your client or any other persons notify the Fund, in writing, within 30 days of receipt of this letter that the validity or amount of the damages claimed is contested, or that your client or any other persons have arranged a settlement directly with the claimants, the Fund will begin processing the damage claims.

If your or your client have any questions regarding this matter, please contact Michael Sklar of my staff.

Sincerely,



David C. Mack
Administrator

DCM/MS:dh

c: Debra Laurano, Attorney for Selecto-Flash
Sterling Supply Co.

~~Division of Hazardous Waste Management - Metro Enforcement~~

ATTACHMENT 2

ATTACHMENT H

GROUND-WATER RESOURCES OF
ESSEX COUNTY, NEW JERSEY

By

WILLIAM D. NICHOLS

Hydrologist, U. S. Geological Survey

SPECIAL REPORT NO. 28

1968

Prepared by the U. S. Geological Survey

in Cooperation with the

State of New Jersey

ATTACHMENT H-1
E-1

in western Essex County and the Brunswick Formation in the north-eastern part of the county probably has not been realized, development of these resources must be undertaken with care if anticipated increase in water needs of the county are to be met.

INTRODUCTION

PURPOSE AND SCOPE

This study was made as part of a statewide program of investigation of the ground-water resources of New Jersey, authorized by the New Jersey Water Supply Act of 1958 and its companion, Water Bond Act. The purpose and scope of these studies are to assemble the available data on geologic and hydrologic factors relating to the occurrence, movement, availability, and chemical quality of ground water in New Jersey; to evaluate and interpret the data; and to make the results of the investigation available to the public. This report represents the results of the ground-water investigation of Essex County made by the U. S. Geological Survey in cooperation with the New Jersey State Department of Conservation and Economic Development, Division of Water Policy and Supply. The work was under the general supervision of Allen Sinnott, formerly District Geologist.

LOCATION AND EXTENT OF AREA

Essex County is located in northeastern New Jersey between longitudes 74°05'W and 74°25'W, and latitudes 40°40'N and 40°55'N. It is bounded on the north by Passaic County; on the east by Bergen County, Hudson County, and Newark Bay; on the south by Union County and on the west by Morris County (fig. 1). The county is 127.44 square miles in area. Newark is the county seat. Other major communities include Orange, East Orange, South Orange, West Orange, Irvington, Belleville, Nutley, Montclair, and Bloomfield.

PREVIOUS INVESTIGATIONS

The geology of Essex County is described in detail by Darton and others (1908) in the Passaic folio. Salisbury (1894) discussed the surficial geology of the county as part of a regional investigation. Rogers and others (1951) described the engineering characteristics of the soils and glacial deposits in the county. Ground-water conditions in the extreme southwestern part of the county were described by Thompson (1932). Herpers and Barkadale (1951) discussed ground-water conditions in the Newark area.

ACKNOWLEDGMENTS

The author wishes to thank the numerous well drillers, State, municipal, and industrial officials and private individuals who supplied data on which this report is based. Acknowledgment is made for the records and logs of wells that were furnished from the files of the New Jersey Bureau of Geology and Topography. The cooperation of those who permitted use of their wells for water-level observation, collection of water samples, and pumping tests is gratefully acknowledged. Most of the well inventory for this report was made by the late O. J. Coskery of the U. S. Geological Survey.

CONTENTS

STATE OF NEW JERSEY
DEPARTMENT OF CONSERVATION
AND ECONOMIC DEVELOPMENT
ROBERT A. ROE, *Commissioner*

DIVISION OF WATER POLICY AND SUPPLY
GEORGE R. SHANKLIN, *Director and Chief Engineer*

WATER POLICY AND SUPPLY COUNCIL

MRS. LILLIAN M. SCHWARTZ, *Chairman* Highland Park
I. RALPH FOX Rumson
FREDERICK J. KAISER Passaic
HERMAN A. KLENNER Rahway
MRS. HERMIA LECHNER Clinton
J. DUNCAN PITNEY Mendham
PAUL J. RITTER Bridgeton
AUGUST C. SCHULTES, SR. Woodbury
DAVID I. STEPACOFF Perth Amboy

MARTHA H. BRENNAN, *Secretary*

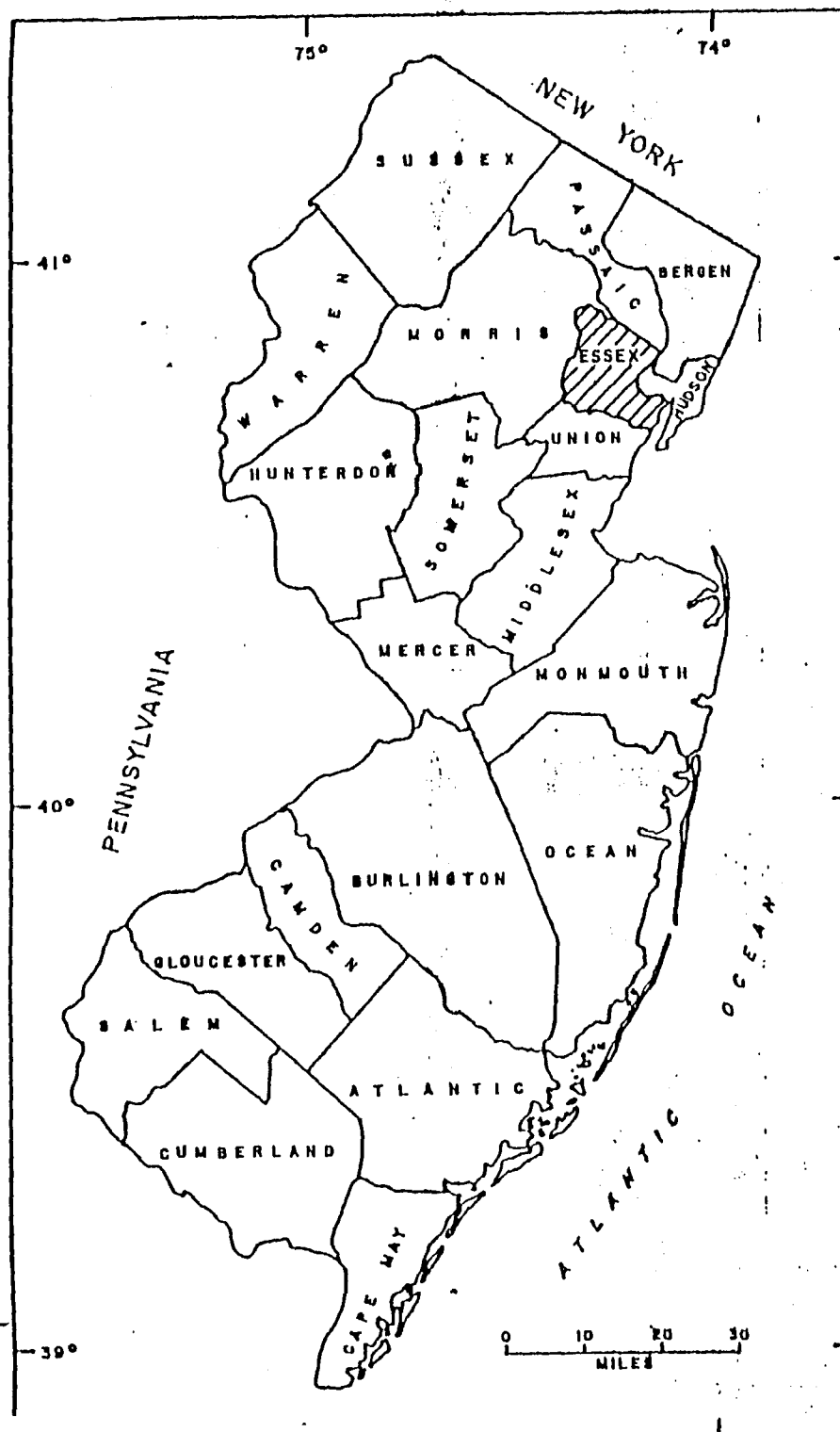
| | Page |
|--|------|
| Abstract | ix |
| Introduction | 1 |
| Purpose and scope | 1 |
| Location and extent of area | 1 |
| Previous investigations | 1 |
| Acknowledgments | 1 |
| Geography | 3 |
| Topography | 3 |
| Climate | 3 |
| Population and economy | 3 |
| Geology | 5 |
| Introduction | 5 |
| Distribution and lithology of rock units | 5 |
| Consolidated rocks | 5 |
| Pleistocene and Recent deposits | 6 |
| Ground-water hydrology | 9 |
| Introduction | 9 |
| Water-bearing properties of major geologic units | 10 |
| Consolidated rocks | 10 |
| Well yield and specific capacity | 13 |
| Quality of water | 15 |
| Pleistocene deposits | 20 |
| Water supply | 27 |
| Utilization of ground water | 27 |
| Future demand and development | 27 |
| Selected References | 55 |

ILLUSTRATIONS

TABLES

| Figure | Page |
|--|-----------|
| 1. Map of New Jersey showing the location of Essex County | 2 |
| 2. Generalized bedrock geologic map showing locations of selected wells | In pocket |
| 3. Generalized surficial geologic map showing axes of buried valleys | In pocket |
| 4. Map showing bedrock topography of the Newark area ... | In pocket |
| 5. Map showing location of wells at plants of P. Ballantine and Sons, Newark, N. J., used during pumping tests in January 1949 | 12 |
| 6. Graph showing cumulative frequency distribution of specific capacities of wells penetrating the Brunswick Formation group according to depth | 14 |
| 7. Graph showing cumulative frequency distribution of specific capacities of wells penetrating the Brunswick Formation grouped according to geographic area | 16 |
| 8. Graph showing cumulative frequency distribution of specific capacities of wells penetrating the Brunswick Formation grouped according to well diameter | 17 |
| 9. Map showing generalized piezometric contours for the Brunswick Formation in the Newark area based on water levels in wells drilled between 1890 and 1900 | 18 |
| 10. Map showing generalized piezometric contours for the Brunswick Formation in the Newark area based on water levels in wells drilled between 1950 and 1960 | 19 |
| 11. Distribution of valley-fill aquifers in Millburn and Livingston Townships | 21 |
| 12. Graph showing depth to water in the Commonwealth Water Company Canoe Brook well field and ground-water pumpage from the Commonwealth Water Company and East Orange Water Dept. Canoe Brook fields, 1947-66 | 24 |
| 13. Graph showing ground-water pumpage for public supply, 1947 to 1966 | 28 |

| Table | Page |
|---|------|
| 1. Ground-water pumpage for public supply from aquifers in Essex County in 1966 | 27 |
| 2. Records of selected wells in Essex County | 31 |
| 3. Chemical analyses of water from selected wells in Essex County | 53 |



GEOGRAPHY

TOPOGRAPHY

Essex County is situated entirely on the Triassic lowlands of the Piedmont Province, one of six physiographic provinces included in the Appalachian Highland physiographic division. The province consists primarily of lowland and gently rolling hills above which rise the ridges of the Watchung Mountains. Altitudes in Essex County range from sea level in the southeastern part of the county to 650 feet along the ridges of the Watchung Mountains. The escarpment of the First Watchung Mountain, trending from northeast to southwest across the middle part of the county, rises 400 feet above the gently rolling plain to the east; the breadth of the First and Second Watchung Mountains varies from 1 to 2 miles. The major streams draining Essex county are the Passaic, Rahway, and Elizabeth Rivers.

CLIMATE

The climate of Essex County, like that of much of New Jersey, is mainly continental because of the predominance of winds from the continental interior. The prevailing wind is from the northwest from October to April and from the southwest for the remaining months. As a consequence, winter weather is controlled by cold continental air masses and summer by tropical air masses. Precipitation in the county averages more than 48 inches annually, and is commonly well distributed throughout the year. Part of the precipitation is received from storms which cross the Great Lakes region and pass down the St. Lawrence Valley. However, the heaviest general rains are produced by coastal storms of tropical origin. The centers of these storms usually pass some distance offshore, with rainfall heaviest and winds strongest near their center (U. S. Department of Agriculture, page 1010, 1941). The average January temperature for the eastern part of the county is 39°F and that of the western part of the county about 28°F. Average temperatures in July range from about 74°F in the eastern part of the county to about 72°F in the western part of the county.

POPULATION AND ECONOMY

Compared with the other counties in New Jersey, Essex County ranks only nineteenth in area, but ranks first in population as of the 1960 census. The population increased from 905,949 in 1950 to 923,545 in 1960—an increase of 1.9 percent; less than in any preceding 10 year period since 1900, except for 1930-40.

Population of Essex County 1900-60

| | |
|------------|---------|
| 1900 | 359,053 |
| 1910 | 512,886 |
| 1920 | 652,089 |
| 1930 | 833,513 |
| 1940 | 837,340 |
| 1950 | 905,949 |
| 1960 | 923,545 |

Nearly 90 percent of the county's population is located in the 71.5 square miles (55.6 percent of total area) east of the Watchung Mountains.

The economy of Essex County is primarily industrial. The principal manufactured products include food products, electrical goods and machinery, chemicals, machinery (excluding electrical machinery), fabricated metal products, and apparel. In 1960, only about 5 percent of the total land area of the county was utilized as farmland.

GEOLOGY

INTRODUCTION

The Brunswick Formation and Watchung Basalt of the Newark Group of Late Triassic age underlie all of Essex County. The Brunswick Formation is dominantly shale and sandstone, but also includes minor amounts of conglomerate. The Watchung Basalt consists of three extensive sequences of lava flows intercalated with the shale and sandstone of the Brunswick Formation. The generalized bedrock geologic map (fig. 2) shows the areal extent of the rocks of Triassic age underlying Essex County. Overlying the rocks of the Newark Group are unconsolidated clay, sand, and gravel deposited during the Pleistocene and Recent Epochs. Pleistocene deposits are the most widespread and are found throughout the county. Deposits of Recent age are confined to the present-day stream valleys. Figure 3 shows the general distribution of the unconsolidated Pleistocene deposits.

Parts of Fairfield and Millburn Townships and Newark are underlain by valleys cut (fig. 3) in bedrock by streams that drained the area before the last glaciation. The valleys were subsequently filled in and buried by glacial debris and have little present-day surface expression.

DISTRIBUTION AND LITHOLOGY OF ROCK UNITS

Consolidated Rocks

Rocks of the Brunswick Formation, the uppermost unit of the Newark Group, underlie most of Essex County. The formation consists dominantly of interbedded brown, reddish-brown, and gray shale, sandy shale, sandstone, and some conglomerate. Three sheets of gray to black basalt are intercalated with sandstone and shale beds of the Brunswick Formation. The total thickness of the Brunswick Formation is not known, but probably exceeds 6,000 feet (Kümmel 1940, p. 102).

In the southern part of the county east of the Watchung Mountains, the Brunswick Formation is predominantly a soft red shale. These rocks become coarser grained toward the north. In the northern part of the county the rocks are mostly sandstone and some interbedded shale; conglomerate is found in the extreme northern part of the county. This change from soft, easily weathered, shale to more resistant sandstone is reflected in the change of topography from the rather flat low-lying plain with few hills in southern Newark to hills of low relief in the northern part of the county.

Between First and Second Watchung Mountains, the Brunswick Formation is dominantly sandstone. West of Second Watchung Mountain, the formation is covered with thick deposits of unconsolidated sediments

The tributary buried valleys in Fairfield Township (fig. 3) contain from 30 to 50 feet of silty sand, sand, and gravel overlain by clay and till near the confluence with the main buried valley. Where the bedrock surface is high, between buried valleys, the glacial deposits consist dominantly of till. However, some stratified sand and gravel are found in the subsurface in eastern Roseland and Essex Fells which do not occur as valley-fill deposits.

Unconsolidated sediments of Recent age are confined to areas adjacent to present-day streams. These deposits consist of clay, silt, and fine sand with gravel. (Rogers and others, 1957, p. 7).

GROUND-WATER HYDROLOGY

INTRODUCTION

Ground water is derived from that part of precipitation that does not run off the surface of the land to streams or return to the atmosphere through evaporation and transpiration. Factors which determine the amount of water that infiltrates to the ground-water reservoir include (1) the porosity and permeability of the surficial material, (2) the slope of the land, (3) the amount and kind of natural and artificial cover, and (4) the intensity and amount of precipitation.

The permeability of a rock, or its ability to transmit water, depends on its porosity, that is, on the number and size of the interstices and on the extent to which the interstices are interconnected. The porosity of a rock, in turn, depends largely on "the shape and arrangement of its constituent particles, the degree of assortment of its particles, the cementation and compacting to which it has been subjected since its deposition, the removal of mineral matter through solution by percolating waters, and the fracturing of the rock, resulting in joints and other openings" (Meinzer, 1923, p. 3). Porosity is expressed quantitatively as the ratio between the volume of void to the total volume of the rock, that is, as the percentage of the total volume of rock occupied by interstices.

On the basis of the type of openings in which ground water may occur, the geologic formations in Essex County may be divided into two groups: (1) consolidated rocks of Triassic age, and (2) unconsolidated sediments of Pleistocene age.

The primary pore spaces in consolidated rocks of the Brunswick Formation in Essex County are commonly so small that an insignificant quantity of water, if any, moves through them under the natural hydraulic gradients or those established by pumping. However, a joint and fracture system that has developed in the consolidated rocks provides secondary porosity and it is largely in and through these openings that the storage and movement of ground water takes place. In addition, vesicles and scoriaceous zones in the basalt add to the porosity in these rocks. Limited interconnected void space occurs in sandstone beds where cementing material is lacking. The volume of all of these openings constitute only a very small percentage of the total volume of the Brunswick Formation and, consequently, their capacity to store and transmit water is limited.

In unconsolidated sediments, water occurs in the pore spaces between the constituent grains. The capacity of unconsolidated sand and gravel deposits to store and transmit water is commonly much greater than that of the consolidated rocks. The reason for this is that the ratio of the

volume of void to the total volume of unconsolidated sediment is considerably greater than the ratio of the volume of fracture openings to the total volume of rock. The interstitial openings in clays and silts are so small, however, that they restrict the movement of water, even though the percentage of void space may be great.

WATER-BEARING PROPERTIES OF MAJOR GEOLOGIC UNITS

Consolidated Rocks

Rocks of the Brunswick Formation are the main source of ground water in Essex County. The shales and sandstones are generally capable of sustaining moderate to large yields to wells. The Watchung basalt commonly is capable of yielding only small to moderate quantities of water.

Water in these rocks occurs under both unconfined and confined conditions. Unconfined ground water occurs mainly in the upland areas where overlying unconsolidated deposits are thin or absent. Confined and semi-confined ground water conditions exist in lowland areas in Newark, parts of Fairfield, and along the Passaic River where clay beds in the unconsolidated Quaternary deposits mantle the underlying rocks. Wherever such confinement occurs, water beneath the relatively impermeable confining layers is commonly under artesian pressure. In many areas, such as parts of Fairfield and in the northern part of the county, water in wells tapping the confined aquifers will rise above the top of the aquifer and sometimes near or above land surface. In areas subjected to heavy pumping, such as the Newark area and western Millburn Township, the artesian pressure may be considerably reduced. Parts of the confined aquifer may even become dewatered as has happened in part of Newark, in which case the water remaining in the aquifer is no longer confined.

Confined ground water is also encountered in the shales and sandstone directly beneath the basalt flows in the western part of the county down-dip from the outcrop area. Confined or semi-confined ground-water conditions may occur in some areas because of differences in permeability within the rock layers resulting from variations in fracturing or weathering or a combination of both.

Some of the various systems of joints and fractures in the consolidated rocks intersect so that water can move vertically as well as horizontally and zones of high secondary porosity are then interconnected. Most wells tapping these rocks draw water from more than one water-bearing zone. However, these zones in the Brunswick Formation have not yet been accurately defined. They are certainly within the first 600 feet below land surface, and for most practical purposes are probably within the

Essex County are for the most part between 300 and 400 feet deep. Nevertheless, the lack of any precise known boundaries makes it difficult to determine the optimum depth to which a well should be drilled in any given location. Also it is impossible to predict the yield of a proposed well except in very general terms based on the average yield of other wells in the area.

Two pumping tests, both at the same locality, were conducted by the U. S. Geological Survey in January 1949 on wells tapping the Brunswick Formation in Essex County. The wells (owned by P. Ballantine and Sons, Newark), shown on figure 5, were selected to provide the best possible spread of observation wells in as many directions as possible. As the results of the tests have been reported by Herpers and Barksdale (1951, p. 28-31) they will be only summarized here.

In the first test, the centrally located well I-1 was pumped and water levels were observed in the seven surrounding wells indicated on figure 5. Well II-9 was pumped during the second test and the same wells were used to observe water levels. In both tests, observation wells lying along the strike of the Brunswick Formation with respect to the pumping well showed the greatest drawdown. When well I-1 was pumped, there was a prompt and distinct decline of the water level in observation well II-8. When well II-9 was pumped, the water level in observation well II-10 responded promptly and distinctly. No significant response was seen in observation wells aligned in directions other than along the strike during either test.

In these tests, as well as in several others conducted, it is invariably noted that aquifers in the sedimentary rocks of Triassic age of northern New Jersey are anisotropic, that is, they do not transmit water equally in all directions (Vecchioli, 1967). The greatest drawdowns are observed in those wells aligned along the strike of the sedimentary layers with respect to the pumping well. The least amount of drawdown is observed in observation wells that are located transverse to the strike. These observations have been interpreted to indicate that water moves more readily along joints and fractures which strike parallel to the strike of the bedding than along joints and fractures which strike in other directions. It is useful, when planning future well locations, to know the direction in which wells will interfere most with each other and with existing wells. In general, wells should be spaced far apart along the direction of strike (approximately N 30° E for most of Essex County) because it is in this direction that the greatest interference occurs. They may be placed closer together perpendicular to the strike since interference is less in that direction.

ATTACHMENT I

Table 16.II

Summary of Petroleum Hydrocarbons in Soil
Selecto-Flash, Inc. - West Orange, New Jersey

| SR Sample Number/ DRAI Sample Number | Parameter Petroleum Hydrocarbon (concentration in ppm) |
|---|--|
| Method Blank | ND |
| SR13610-1 BG 0-2' | 68 |
| SR13610-2 BG 2-4' | NR |
| SR13610-3 2(1) 0-2' | 610 |
| SR13610-4 2(2) 0-2' | NR |
| SR13610-5 2(2) 2-4' | NR |
| SR13610-6 2(3) 0-2' | NR |
| SR13610-7 2(3) 2-4 | NR |
| SR13610-8 2(3) 2-4 | 100 |
| SR13610-9 2(4) 0-2' | NR |
| SR13610-10 2(4) 2-4 | 300 |
| SR13610-11 2(5) 2-4 (field duplicates) | 280 |
| SR13610-12 2(5) 0-2' | 1500 |
| SR13610-13 2(6) 0-2' | 120 |

(1) ND - Not Detected, MDL = 20 ppm.
(2) NR - Not Requested.

Dan Raviv Associates, Inc.
Job No. 86C367

ATTACHMENT I-11



Dan Raviv Associates, Inc.

Consultants in hydrogeology, water quality, landfill hydrology and ECRA compliance

ECRA Case No. 86-935

Item #16 (Supplemental)
Results of Sampling and Analysis
April 1987
DRAI Job No. 86C367

prepared for

Selecto-Flash, Inc.
18 Central Avenue
West Orange, New Jersey

prepared by

Dan Raviv Associates, Inc.
57 East Willow Street
Millburn, New Jersey 07041

December 1987

57 East Willow Street, Millburn, New Jersey 07041 (201) 564-6006/FAX (201) 564-6442

ATTACHMENT I-12

Table of Contents

Item #16 - Results of Sampling and Analysis

| <u>Section</u> | | <u>Page</u> |
|----------------|---|-------------|
| 1.0 | SOILS | 1 |
| | 1.1 Results of Soil Sampling and Analysis | 1 |
| | 1.2 Volatile Organic Compounds + 15 | 1 |
| | 1.3 Petroleum Hydrocarbons | 2 |
| 2.0 | GROUND WATER | 3 |
| | 2.1 Well Installation and Results of Ground Water Sampling and Analysis - April 1987 | 3 |
| | 2.2 Well Construction | 3 |
| | 2.3 Volatile Organic Compounds + 15 | 4 |
| | 2.4 Petroleum Hydrocarbons | 4 |
| 3.0 | CONCLUSIONS | 5 |
| | 3.1 Monitoring Well #1 | 5 |
| | 3.2 Monitoring Well #2 | 5 |

List of Tables

| <u>Table No.</u> | <u>Title</u> |
|------------------|--|
| 16.III | Summary of Volatile Organic Compounds in Soil |
| 16.IV | Summary of Petroleum Hydrocarbons in Soil |
| 16.V | Summary of Volatile Organic Compounds in Water |
| 16.VI | Summary of Petroleum Hydrocarbons Analysis in Water |

List of Figures

| <u>Figure No.</u> | <u>Title</u> |
|-------------------|--|
| 16.2 | Summary of Soil and Ground Water Results January and April 1987 |

Appendix No.

| | |
|---|--|
| A | Ground Water Sampling Collection Protocol/ Monitoring Well Installation Protocols |
| B | Soil Boring Logs |
| C | Monitoring Well Schematic/ Monitoring Well Log |
| D | Laboratory Data Sheets - Soil |
| E | Laboratory Data Sheets - Water |

Item #16 (Supplemental)
Results of Sampling and Analysis
April 1987

1.0 SOILS

1.1 Results of Soil Sampling and Analysis

During April 1987, personnel from Dan Raviv Associates, Inc. (DRAI) collected soil samples from additional boring locations (Figure 16.2) in the vicinity of the french drain system at Selecto-Flash in West Orange, New Jersey. Borings were completed by Jersey Boring and Drilling of Newark, New Jersey. All sample collection protocols were adhered to as outlined on Item #14 of the previously submitted ECRA II submission. Samples collected were analyzed for volatile organic compounds plus 15 (VOC+15) and petroleum hydrocarbons (PHC) by AnalytiKEM Laboratories of Cherry Hill, New Jersey.

Results for VOC+15 and PHC analysis are summarized on Tables 16.III and 16.IV, respectively. Sample locations, depths, and analytical results are depicted on Figure 16.2. Laboratory data sheets with QA/QC procedures are provided in Appendix D.

1.2 Volatile Organic plus 15 Non-targetted Compounds (VOC's)

Compounds detected in the laboratory method blank, i.e. methylene chloride and the non-targetted compound identified as 1,1,2-trichloro-1,2,2-trifluoroethene (Scan #311), are not included in this discussion of volatile organic compounds detected at the investigative site because they have been attributed to laboratory contamination.

Two soil samples were collected during the installation of monitoring well #1. Toluene, found in sample MW1/5-7' at 68 parts per billion (ppb), has been attributed to laboratory contamination. The second soil sample, collected at 12-14' (MW1/12-14'), showed unknown non-targetted volatiles at a total concentration of 5,620 ppb. Also detected were Cyclohexanes at 1,580 ppb, unknown hydrocarbons at 1,740 ppb, an unknown compound at 500 ppb, and an isomer, identified as decahydronaphthalene at 1,800 ppb. The non-targetted compounds are believed to be components of petroleum hydrocarbons, also detected at this interval.

Soil samples were collected during the installation of monitoring well #2. Results of analysis indicate VOC's in excess of ECRA action guidelines. Monitoring well #2 is located at the french drain system in the parking lot on the northwest side of the building. Soil sample SFIMW2/1-3' reported concentrations of 1,500 ppb of trans-1,2-dichloroethene, 6,300 ppb of tetrachloroethene (PCE) and total xylenes at 2,300 ppb. Results of analysis of soil sample SFIMW2/3-5' indicate trans-1,2-dichloroethene present at 110 ppb, trichloroethene (TCE) at 130 ppb, PCE at 8,700 ppb and total xylenes at 4,800 ppb. It is important to note that the concentrations of trans-1,2-dichloroethene and TCE in sample SFIMW2/3-5' were detected below the method detection limit (MDL), therefore, quantification is approximate.

Soil sample SFIMW2/5-7' was collected in duplicate. The samples exhibited concentrations of 8,200 and 2,200 ppb of trans-1,2- dichloroethene (a degradation product of TCE), 4,000 ppb and 1,400 ppb of TCE and 30,000 and 19,000 ppb of PCE. No xylenes, however, were found at the 5-7' sampling interval.

Sampling points SF 2(7) and SF 2(8) are located east of the french drain system and are parallel with January sampling points 2(3) and 2(4) (Figure 16.2). Results of soil analysis indicate PCE was detected in soil sample 2(7)/3-5' at a concentration of 4,100 ppb. In addition, an unknown compound, scan number 957, was detected at 8,200 ppb. Results of analysis for samples SF(2)7/5-7' and SF(2)7/7-9' indicate no VOC's detected. Soil sample designation SF2(8), located further downstream of the french drain system and parallel to January sampling point 2(4), indicated a concentration of 1,100 ppb for PCE at the 1-3' interval. VOC analysis of SF2(8)3-5' resulted in concentrations of 510 ppb for TCE and 380 ppb for PCE. Samples collected in duplicate at SF2(8)5-7' showed concentrations of PCE at 480 ppb, but TCE was below the method detection limit of 330 ppb for 5-7A. However, no PCE or TCE was detected in the field duplicate for sample 5-7B.

Two samples collected west of the paint and solvent storage shed exhibited levels of VOC's in excess of ECRA guidelines of 1,000 ppb. The purpose of this sampling location was to delineate the vertical contamination previously identified at this location. Samples collected in this area during the January sampling round were collected at a maximum depth of 2 feet. Identified in sample SF#2(9)/3.0', collected during the April sampling round, is TCE and 1,1,2-trichloroethene at 710 ppb and 810 ppb, respectively. Sample SF#2(9)/4.5' exhibited a concentration of TCE at 110 ppb, PCE at 1,500 ppb and toluene at 120 ppb. In addition, a substituted benzene, scan number 788, was reported at a concentration of 1,100 ppb.

1.3 Petroleum Hydrocarbons (PHC)

Soil sample MW1/5-7' and the field duplicate collected at the location of monitoring well #1 exhibited PHC concentrations of 460 ppm and 1,300 ppm, respectively. The soil sample collected at MW1/12-14' indicated 310 ppm of PHC. Results of analysis of sample SF#MW2/5-7' indicate PHC at a concentration of 3,100 ppm. No PHC's were detected at sampling point SF2(7) at a depth of 5-7'. Sample intervals and analytical results are listed in Table 16.IV and depicted on Figure 16.2.

2.0 GROUND WATER

2.1 Well Installation and Results of Ground Water Sampling and Analysis, April 1987

Two monitoring wells, SFMW#1 and SFMW#2, were installed at the site in April 1987 to determine if any leakage from the underground fuel oil tank and french drain system had impacted the local ground water. Personnel from DRAI collected ground water samples from the two monitoring wells on April 21, 1987. Samples were analyzed for VOC+15, and PHC by Accutest Laboratories of North Brunswick, New Jersey. DRAI water sample collection protocols were adhered to during well installation and the April water sample collection episode.

2.2 Well Construction

The two monitoring wells (SFWM#1 and SFMW#2) were installed at the subject site by a licensed well driller, Jersey Boring and Drilling, on April 23, 24 and 27, 1987. The well locations are shown on Figure 16.2. Well SFMW#1 is constructed with 4" PVC screen and riser pipe, and well SFMW#2 is constructed with 2" PVC screen and riser pipe. Both wells have 10" surface casing sealed into the regional grey clay at approximately 8 feet below ground surface. Sandy fill was encountered above the clay, and reddish-brown silt, sand and gravel, characteristic of weathered Brunswick shale, was encountered.

The monitoring wells were auger drilled with a CME 54 rig using 8 1/4" and 3 1/2" ID auger flights. Well SFMW#1 was drilled to 22 feet below surface with the 8 1/4" ID auger. A section of 4" PVC well screen was installed from the bottom of the boring to about 12 feet below surface, and 4" PVC riser pipe was set from the top of the screen to ground surface. The well was gravel packed from the bottom of the hole to 2 feet above the top of screen and sealed with 2.5 feet of bentonite pellets to keep the continuity of the clay and silt barrier. Prior to adding the cement slug to seal the upper part of the hole, a 10" steel casing was set around the 4" PVC well and into the bentonite seal.

The second monitoring well, SFMW#2, was first auger drilled into the clay to 8 feet below surface and sealed with 10" steel casing and cement. The casing was then augered out with a 3 1/2" ID auger to 22 feet below surface and the 2" monitoring well was completed through the auger. This well also has 10 feet of screen at the bottom of the hole and is gravel packed to 2 feet above the top of the screen.

Well construction details and well logs are found in Appendix C. After installation, the wells were developed with compressed air for about one hour.

2.3 Volatile Organic Compounds Plus 15 (VOC's)

Water samples collected from monitoring well 1 and 2 resulted in VOC concentrations below ECRA action guidelines for ground water. Ground water sample SFMW1 exhibited a concentration of 4.6 ppb of chloroform, which is attributed to laboratory contamination. Chloroform was also identified in the laboratory method blank. Results of VOC analysis for ground water samples, collected in duplicate from monitoring well #2, indicate trans-1,2-dichloroethylene and TCE detected at levels below ECRA guidelines (35 ppb and 9.3 ppb, respectively).

2.4 Petroleum Hydrocarbons

On April 21, 1987, ground water samples were collected from monitoring well #1 and monitoring well #2 by personnel of DRAI. Samples were analyzed for PHC's (EPA method 418.1) by Accutest laboratories of North Brunswick, New Jersey. Results of analysis indicated no PHC's in the ground water at Selecto-Flash. A summary of the results can be found in Table 16.VI.

3.0 CONCLUSIONS

3.1 Monitoring Well #1

Monitoring well #1 is located adjacent to the abandoned underground fuel oil storage tank. Sampling at this location was intended to determine the integrity of the tank. As discussed in the previously submitted SES, the majority of the tank lies beneath an existing structure, preventing an integrity determination using the standard of four soil borings. For this reason a monitoring well was installed. Results of soil analysis indicate some leakage of product has occurred in the past (the tank is no longer in service). However, contamination by PHC's is confined to the upper soil zones, above a clay layer, and does not influence the groundwater as demonstrated by PHC analysis performed on ground water samples collected from the well.

3.2 Monitoring Well #2

Well #2, near the french drain system, was designed to determine if contamination (primarily VOC) found in the drainage system had infiltrated the underlying ground water. Results of soil and ground water sampling conducted at this location, however, indicate contamination is confined above the clay layer present at this location.

Soils found in the vicinity of the french drainage system show contamination (primarily VOC) at levels in excess of ECRA cleanup guidelines. This contamination appears to be confined to above the clay layer, which is encountered approximately 6 feet below surface. Contamination above cleanup criteria is also present in the soil found adjacent to the paint shed.

Based on contaminant distribution, PCE's detected in soils are believed to have originated off-site. This contamination has been identified in soil samples collected from behind the paint shed and along the french drain system. Further, Selecto-Flash does not employ this compound (PCE) in any of its operations.

A cleanup plan designed to address soil contamination at the investigation site would entail the excavation and removal of contaminated soils found along the french drain system and behind the paint shed. However, before such a plan can be implemented, the off-site source of PCE contamination must be addressed to (1) ensure a complete cleanup and (2) prevent the re-contamination of soils at the investigation site once cleanup is concluded.

Table 16.III (cont'd)
Summary of Volatile Organic Compounds in Soil
Selecto-Flash, Inc., West Orange, New Jersey
April 1987

| | | | | |
|--|-----------------------|---------|--------------------|-------------|
| Collection Date | 4/24/87 | 4/24/87 | | |
| DRAI Sample Number | Method | Method | 4/22/87 | 4/22/87 |
| | Blank 1 | Blank 2 | MW1/5-7 | MW1/12-14 |
| <hr/> | | | | |
| VOLATILE ORGANIC COMPOUNDS | Concentrations in ppb | | | |
| Chloromethane | ND (1) | ND | ND | ND |
| Bromomethane | | | | |
| Vinyl Chloride | | | | |
| Chloroethane | ND | ND | ND | ND |
| Methylene Chloride(2) | 92(6) | 360 | 140(6)(3) | 63(6)(3) |
| 1,1-Dichloroethene | ND | ND | ND | ND |
| 1,1-Dichloroethane | | | | |
| 1,2-trans-Dichloroethene | | | | |
| Chloroform | | | | |
| 1,2-Dichloroethane | | | | |
| 1,1,1-Trichloroethane | | | | |
| Carbon Tetrachloride | | | | |
| Bromodichloromethane | | | | |
| 1,2-Dichloropropane | | | | |
| trans 1,3-Dichloropropene | | | | |
| Trichloroethylene | | | | |
| Dibromochloromethane | | | | |
| Benzene | | | | |
| 1,1,2-Trichloroethane | | | | |
| cis 1,3-Dichloropropene | | | | |
| 2-Chloroethyl Vinyl Ether | | | | |
| Bromoform | | | | |
| 1,1,2,2-Tetrachloroethane | | | | |
| Tetrachloroethene | | | ND | |
| Toluene(2) | | | 68(6) | |
| Chlorobenzene | | | ND | |
| Ethyl Benzene(3) | | | | |
| Total Xylenes | ND | ND | ND | ND |
| <hr/> | | | | |
| Total Targetted Volatiles: | 92 | 360 | 208 | 63 |
| <hr/> | | | | |
| Total Non-Targetted Volatiles: | ND | ND | ND | 5,620(4) |
| <hr/> | | | | |
| Total Targetted & Non- Targetted Volatiles: | 92 | 360 | 68(5) | 5,620(5)(4) |

Dan Raviv Associates, Inc.
Job No. 86C367

ATTACHMENT I-10

Table 16.III
Summary of Volatile Organic Compounds in Soil
Selecto-Flash, Inc., West Orange, New Jersey
April 1987

| Collection Date | 4/27/87 | 4/27/87 | 4/27/87 |
|--|-----------------------|------------|------------|
| DRAI Sample Number | SF2(7)3-5' | SF2(7)5-7' | SF2(7)7-9' |
| VOLATILE ORGANIC COMPOUNDS | | | |
| | Concentrations in ppb | | |
| Chloromethane | ND | ND | ND |
| Bromomethane | | | |
| Vinyl Chloride | | | |
| Chloroethane | ND | | |
| Methylene Chloride(2) | 880(3) | | |
| 1,1-Dichloroethene | ND | | |
| 1,1-Dichloroethane | | | |
| 1,2-trans-Dichloroethene | | | |
| Chloroform | | | |
| 1,2-Dichloroethane | | | |
| 1,1,1-Trichloroethane | | | |
| Carbon Tetrachloride | | | |
| Bromodichloromethane | | | |
| 1,2-Dichloropropane | | | |
| trans 1,3-Dichloropropene | | | |
| Trichloroethylene | | | |
| Dibromochloromethane | | | |
| Benzene | | | |
| 1,1,2-Trichloroethane | | | |
| cis 1,3-Dichloropropene | | | |
| 2-Chloroethyl Vinyl Ether | | | |
| Bromoform | | | |
| 1,1,2,2-Tetrachloroethane | ND | | |
| Tetrachloroethene | 4,100(4) | | |
| Toluene(4) | ND | | |
| Chlorobenzene | | | |
| Ethyl Benzene(3) | | | |
| Total Xylenes | ND | ND | ND |
| Total Targetted Volatiles: | 4,980(4) | ND | ND |
| Total Non-Targetted Volatiles: | 8,200(4) | ND | ND |
| Total Targetted & Non-Targetted Volatiles: | 12,300(5)(4) | ND | ND |

- (1) ND - Not detected. Refer to laboratory data sheets for Method Detection Limit (MDL).
- (2) Identification of this compound at low levels is sometimes attributed to laboratory contamination.
- (3) Compound found in method blank.
- (4) Concentrations in excess of ECRA guidelines of 1000 ppb.
- (5) Compounds detected in method blank not included in total.
- (6) Constituent detected below the MDL, quantification is approximate.

Dan Raviv Associates, Inc.
Job No. 86C367

ATTACHMENT II

Table 16.III (cont'd)
Summary of Volatile Organic Compounds in Soil
Selecto-Flash, Inc., West Orange, New Jersey
April 1987

| Collection Date: | 4/23/87 | 4/23/87 | 4/24/87 | 4/24/87 |
|--------------------|-------------|-------------|------------|------------|
| DRAI Sample Number | SF#2(9)/3.0 | SF#2(9)/4.5 | SFIMW2/1-3 | SFIMW2/3-5 |

**VOLATILE ORGANIC
COMPOUNDS**

Concentrations in ppb

| | | | | |
|----------------------------|-----|-----------|-----------|----------|
| Chloromethane | ND | ND | ND | ND |
| Bromomethane | | | | |
| Vinyl Chloride | | | | |
| Chloroethane | | ND | ND | |
| Methylene Chloride(3) | | 110(6)(3) | 240(6)(3) | |
| 1,1-Dichloroethene | | ND | ND | |
| 1,1-Dichloroethane | | | ND | ND |
| trans-1,2-Dichloroethene | | | 1,500(4) | 110(6) |
| Chloroform | | | ND | ND |
| 1,2-Dichloroethane | | | | |
| 1,1,1-Trichloroethane | | | | |
| Carbon Tetrachloride | | | | |
| Bromodichloromethane | | | | |
| 1,2-Dichloropropane | | | | |
| trans 1,3-Dichloropropene | ND | ND | ND | ND |
| Trichloroethylene | 710 | 110(6) | 710 | 130(6) |
| Dibromochloromethane | ND | ND | ND | ND |
| 1,1,2-Trichloroethane | | | | |
| Benzene | | | | |
| cis-1,3-Dichloropropene | | | | |
| 2-Chloroethyl Vinyl Ether | | | | |
| Bromoform | | | | |
| 4-Methyl-2-pentanone(MIBK) | ND | ND | ND | ND |
| Tetrachloroethene | 810 | 1,500 | 6,300(4) | 8,700(4) |
| 1,1,2,2-Tetrachloroethane | ND | ND | ND | ND |
| 1,1,2-Trichloroethane | | ND | ND | ND |
| Toluene(2) | ND | 120(6) | 150(6) | 22(6) |
| Chlorobenzene | | ND | ND | ND |
| Ethyl Benzene | | | 88(6) | ND |
| Total Xylenes | | | 23,000 | 4,800 |
| Methyl Isobutyl Ketone | ND | ND | ND | ND |

| | | | | |
|----------------------------|----------|----------|-----------|-----------|
| Total Targetted Volatiles: | 1,520(4) | 1,840(4) | 31,988(4) | 13,762(4) |
|----------------------------|----------|----------|-----------|-----------|

| | | | | |
|--------------------------------|----|-----------|----|-----------|
| Total Non-Targetted Volatiles: | ND | 11,000(4) | ND | 18,500(4) |
|--------------------------------|----|-----------|----|-----------|

| | | | | |
|--|----------|-----------|--------------|-----------|
| Total Targetted & Non-Targetted Volatiles: | 1,520(4) | 12,730(5) | 31,748(4)(5) | 32,152(4) |
|--|----------|-----------|--------------|-----------|

Table 16.III (cont'd)
Summary of Volatile Organic Compounds in Soil
Selecto-Flash, Inc., West Orange, New Jersey
April 1987

| | | |
|--|-----------------------|-------------|
| DRAI Sample Number | 4/24/87 | 4/24/87 |
| Collection Date: | SFIMW2/5-7A | SFIMW2/5-7B |
| <hr/> | | |
| VOLATILE ORGANIC COMPOUNDS | Concentrations in ppb | |
| Chloromethane | ND | ND |
| Bromomethane | ND | ND |
| Vinyl Chloride | ND | ND |
| Chloroethane | ND | ND |
| Methylene Chloride(2) | 1,000(3) | 810(3) |
| 1,1-Dichloroethene | ND | ND |
| 1,1-Dichloroethane | ND | ND |
| trans-1,2-Dichloroethene | 8,200(4) | 2,200(4) |
| Chloroform | ND | ND |
| 1,2-Dichloroethane | ND | ND |
| 1,1,1-Trichloroethane | ND | ND |
| Carbon Tetrachloride | ND | ND |
| Bromodichloromethane | ND | ND |
| 1,2-Dichloropropane | ND | ND |
| trans 1,3-Dichloropropene | ND | ND |
| Trichloroethene | 4,000(4) | 1,400(4) |
| Dibromochloromethane | ND | ND |
| Benzene | ND | ND |
| 1,1,2-Trichloroethane | ND | ND |
| cis 1,3-Dichloropropene | ND | ND |
| 2-Chloroethyl Vinyl Ether | ND | ND |
| Bromoform | ND | ND |
| 1,1,2,2-Tetrachloroethane | ND | ND |
| Tetrachloroethene | 30,000(4) | 19,000(4) |
| Toluene(4) | ND | ND |
| Chlorobenzene | ND | ND |
| Ethyl Benzene(3) | ND | ND |
| Total Xylenes | ND | ND |
| <hr/> | | |
| Total Targetted Volatiles: | 43,200(4) | 23,410(4) |
| <hr/> | | |
| Total Non-Targetted Volatiles: | ND | ND |
| <hr/> | | |
| Total Targetted & Non- Targetted Volatiles: | 42,200(5) | 22,600(5) |
| <hr/> | | |

Table 16.III (cont'd)
Summary of Volatile Organic Compounds in Soil
Selecto-Flash, Inc., West Orange, New Jersey
April 1987

| Collection Date | 4/29/87 | 4/29/87 | 4/29/87 |
|--|-----------------------|------------|-------------|
| DRAI Sample Number | SF2(8)1-3' | SF2(8)3-5' | SF2(8)5-7'A |
| VOLATILE ORGANIC COMPOUNDS | | | |
| | Concentrations in ppb | | |
| Chloromethane | ND | ND | ND |
| Bromomethane | | | |
| Vinyl Chloride | | | |
| Chloroethane | | | |
| Methylene Chloride(2) | | | |
| 1,1-Dichloroethene | | | |
| 1,1-Dichloroethane | | | |
| 1,2-trans-Dichloroethene | | | |
| Chloroform | | | |
| 1,2-Dichloroethane | | | |
| 1,1,1-Trichloroethane | | | |
| Carbon Tetrachloride | | | |
| Bromodichloromethane | | | |
| 1,2-Dichloropropane | | | |
| trans 1,3-Dichloropropene | | ND | ND |
| Trichloroethylene | | 510 | 240(6) |
| Dibromochloromethane | | ND | ND |
| Benzene | | | |
| 1,1,2-Trichloroethane | | | |
| cis 1,3-Dichloropropene | | | |
| 2-Chloroethyl Vinyl Ether | | | |
| Bromoform | | | |
| 1,1,2,2-Tetrachloroethane | ND | ND | ND |
| Tetrachloroethene | 1,100(4) | 380 | 480 |
| Toluene(4) | ND | ND | ND |
| Chlorobenzene | | | |
| Ethyl Benzene(3) | | | |
| Total Xylenes | ND | ND | ND |
| Total Targetted Volatiles: | 1,100(4) | 890 | 720 |
| Total Non-Targetted Volatiles: | ND | ND | ND |
| Total Targetted & Non-Targetted Volatiles: | 1,100(4) | 890 | 720 |

Dan Raviv Associates, Inc.
Job No. 86C367

ATTACHMENT 1-24

Table 16.III (cont'd)
Summary of Volatile Organic Compounds in Soil
Selecto-Flash, Inc., West Orange, New Jersey
April 1987

| | | | | |
|--|---------------------------|---------|---------|---------|
| Collection Date: | 4/24/87 | 4/23/87 | 4/24/87 | 4/24/87 |
| DRAI Sample Number: | Method Blank (Aqueous) | SF-W1 | SF-TB | SF-FB |
| <hr/> | | | | |
| VOLATILE ORGANIC COMPOUNDS | Concentrations in ppb | | | |
| Chloromethane | ND | ND | ND | ND |
| Bromomethane | | | | |
| Vinyl Chloride | | | | |
| Chloroethane | ND | | | |
| Methylene Chloride | 2.1(6) | | | |
| 1,1-Dichloroethene | ND | | | |
| 1,1-Dichloroethane | | | | |
| 1,2-trans-Dichloroethene | | ND | | |
| Chloroform | | 23 | | |
| 1,2-Dichloroethane | | ND | | |
| 1,1,1-Trichloroethane | | | | |
| Carbon Tetrachloride | | ND | | |
| Bromodichloromethane | | 4(6) | | |
| 1,2-Dichloropropane | | ND | | |
| trans 1,3-Dichloropropene | | | | |
| Trichloroethene | | | | |
| Dibromochloromethane | | | | |
| 1,1,2-Trichloroethane | | | | |
| Benzene | | | | |
| cis 1,3-Dichloropropene | | | | |
| 2-Chloroethyl Vinyl Ether | | | | |
| Bromoform | | | | |
| Tetrachloroethene | | | | |
| 1,1,2,2-Tetrachloroethane | | | | |
| Tetrachloroethene | | | | |
| Toluene | | | | |
| Chlorobenzene | | | | |
| Ethyl Benzene | | | | |
| Xylenes Total | ND | ND | ND | ND |
| <hr/> | | | | |
| Total Targetted Volatiles: | 2.1 | 27 | ND | ND |
| <hr/> | | | | |
| Total Non-Targetted Volatiles: | 10 | ND | 712(3) | 611(3) |
| <hr/> | | | | |
| Total Targetted & Non- Targetted Volatiles: | 2.1 | 27 | ND | ND(5) |
| <hr/> | | | | |

Dan Raviv Associates, Inc.
Job No. 86C367

ATTACHMENT I-25

Table 16.III (cont'd)
Summary of Volatile Organic Compounds in Soil
Selecto-Flash, Inc., West Orange, New Jersey
April 1987

| Collection Date DRAI Sample Number | Method Blank | 4/29/87 SF2(8)5-7'B | 4/27/87 SFFB | 4/29/87 SFFB |
|---|-----------------------|------------------------|-----------------|-----------------|
| VOLATILE ORGANIC COMPOUNDS | | | | |
| | Concentrations in ppb | | | |
| Chloromethane | ND(1) | ND | ND | ND |
| Bromomethane | | | | |
| Vinyl Chloride | | | | |
| Chloroethane | ND | ND | ND | ND |
| Methylene Chloride(2) | 370 | 360 | 1.3(3) | 1.7(3) |
| 1,1-Dichloroethene | ND | ND | ND | ND |
| 1,1-Dichloroethane | | | | |
| 1,2-trans-Dichloroethene | | | | |
| Chloroform | | | | |
| 1,2-Dichloroethane | | | | |
| 1,1,1-Trichloroethane | | | | |
| Carbon Tetrachloride | | | | |
| Bromodichloromethane | | | | |
| 1,2-Dichloropropane | | | | |
| trans 1,3-Dichloropropene | | | | |
| Trichloroethylene | | | | |
| Dibromochloromethane | | | | |
| Benzene | | | | |
| 1,1,2-Trichloroethane | | | | |
| cis 1,3-Dichloropropene | | | | |
| 2-Chloroethyl Vinyl Ether | | | | |
| Bromoform | | | | |
| 1,1,2,2-Tetrachloroethane | | | | |
| Tetrachloroethene | | | | |
| Toluene(4) | | | | |
| Chlorobenzene | | | | |
| Ethyl Benzene(3) | | | | |
| Total Xylenes | ND | ND | ND | ND |
| Total Targetted Volatiles: | 370 | 360 | 1.3 | 1.7 |
| Total Non-Targetted Volatiles: | ND | ND | 30 | 8.0 |
| Total Targetted & Non-Targetted Volatiles: | 370 | ND(5) | 30(5) | 8.0(5) |

Dan Raviv Associates, Inc.
Job No. 86C367

ATTACHMENT

I-76

Table IV
Summary of Petroleum Hydrocarbons (PHC) in Soil
Selectoflash, Inc., West Orange, New Jersey
April 1987

| <u>Sample Designation/ Depth Intervals</u> | <u>S-R Sample Number</u> | <u>Sampling Date</u> | <u>PHC (ppm)</u> |
|--|------------------------------|--------------------------|----------------------|
| Method Blank | ----- | 4/22/87 | ND(1) |
| Method Blank | ----- | 4/27/87 | ND |
| MW1/5-7' | A13990-1 | 4/22/87 | 460(2) |
| MW1/5-7A' | A13990-2 | 4/22/87 | 1300(2) |
| MW1/12-14' | A13990-3 | 4/22/87 | 310(2) |
| SFI MW2/5-7A' | A13990-8 | 4/24/87 | 3,100(2) |
| SF2(7)5-7' | A14010-2 | 4/27/87 | ND |

-
- (1) ND - Not Detected, Refer to Laboratory data sheets for method detection limit (MDL).
(2) Concentrations in excess of ECRA guidelines of 100 ppm.

Dan Raviv Associates, Inc.
Job No. 87C367

ATTACHMENT I-17

Table 16.V

Summary of Volatile Organic Compounds in Water
 Selecto-Flash, Inc., West Orange, New Jersey
 April 1987

| | | | |
|---------------------|--------------|------------|---------|
| DRAI Sample Number: | Method Blank | Trip Blank | SFB |
| Lab Sample Number: | B2657 | 4734 | 4747 |
| Collection Date: | | 5/21/87 | 5/21/87 |

| VOLATILE ORGANIC COMPOUNDS (TARGETTED) | | | |
|--|-----------------------|-------|--------|
| | Concentrations in ppb | | |
| ACROLEIN | ND | ND(1) | ND |
| ACRYLONITRILE | | | |
| BENZENE | | | |
| BROMOFORM | | | |
| BROMODICHLOROMETHANE | | | |
| BROMOMETHANE | | | |
| CARBON TETRACHLORIDE | | | |
| CHLOROBENZENE | | | |
| CHLOROETHANE | | | |
| 2-CHLOROETHYL VINYL ETHER | | | ND |
| CHLOROFORM(3) | | | 4.2(2) |
| CHLOROMETHANE | | | ND |
| CIS-1,3-DICHLOROPROPENE | | | |
| DIBROMOCHLOROMETHANE | | | |
| 1,2-DICHLOROBENZENE | | | |
| 1,3-DICHLOROBENZENE | | | |
| 1,4-DICHLOROBENZENE | | | |
| 1,1-DICHLOROETHANE | | | |
| 1,2-DICHLOROETHANE | | | |
| 1,1-DICHLOROETHYLENE | | | |
| TRANS-1,2-DICHLOROETHYLENE | | | |
| TRANS-1,3-DICHLOROPROPENE | | | |
| 1,2-DICHLOROPROPANE | | | |
| ETHYLBENZENE | | | |
| METHYLENE CHLORIDE | | | |
| 1,1,2,2-TETRACHLOROETHANE | | | |
| TETRACHLOROETHYLENE | | | |
| TOLUENE | | | |
| 1,1,1-TRICHLOROETHANE | | | |
| 1,1,2-TRICHLOROETHANE | | | |
| TRICHLOROETHYLENE | | | |
| TRICHLOROFLUOUROMETHANE | | | |
| VINYL CHLORIDE | | | |
| m-XYLENE | | | |
| p,o-XYLENE | ND | ND | ND |
| Total Targetted | | | |
| Volatiles: | ND | ND | 4.2 |
| Total Non-Targetted | | | |
| Volatiles: | ND | ND | ND |
| Total Targetted & Non-Targetted Volatiles: | ND | ND | 4.2 |

(1) ND = Not Detected, refer to laboratory data sheets for method detection limit (MDL).

(2) Constituent detected below MDL, quantification is approximate.

(3) Identification of this compound at low levels is sometimes attributed to laboratory contamination.

(4) Concentration in excess of ECRA guidelines of 5 ppb.

ATTACHMENT I-28

Dan Raviv Associates, Inc.

Job No. 86C367

Table VI
Summary of Petroleum Hydrocarbons (PHC) in Water
Selectoflash, Inc., West Orange, New Jersey
April 1987

| <u>Sample Designation/ Depth Intervals</u> | <u>Lab Sample Number</u> | <u>Collection Date</u> | <u>PHC (ppm)</u> |
|--|------------------------------|----------------------------|----------------------|
| SBMW1(A) | 4744 | 4/21/87 | <1.0 |
| SBMW1(B) | 4745 | 5/21/87 | <1.0 |
| SBMW2 | 4746 | 5/21/87 | <1.0 |
| SAMW1 | 4748 | 5/21/87 | <1.0 |
| SAMW2 | 4749 | 5/21/87 | <1.0 |

Dan Raviv Associates, Inc.
Job No. 87C367

ATTACHMENT I-27

Table 16.V (cont'd)

Summary of Volatile Organic Compounds in Water
 Selecto-Flash, Inc., West Orange, New Jersey
 April 1987

| | | | |
|---|-----------------------|----------|----------|
| DRAI Sample Number: | SAMW1 | SAMW2(A) | SAMW2(B) |
| Lab Sample Number: | 4748 | 4749 | 4750 |
| Collection Date: | 5/21/87 | 5/21/87 | 5/21/87 |
| <hr/> | | | |
| VOLATILE ORGANIC COMPOUNDS (TARGETTED) | Concentrations in ppb | | |
| ACROLEIN | ND | ND | ND |
| ACRYLONITRILE | | | |
| BENZENE | | | |
| BROMOFORM | | | |
| BROMODICHLOROMETHANE | | | |
| BROMOMETHANE | | | |
| CARBON TETRACHLORIDE | | | |
| CHLOROBENZENE | | | |
| CHLOROETHANE | | | |
| 2-CHLOROETHYL VINYL ETHER | ND | | |
| CHLOROFORM(3) | 4.6(2) | | |
| CHLOROMETHANE | ND | | |
| CIS-1,3-DICHLOROPROPENE | | | |
| DIBROMOCHLOROMETHANE | | | |
| 1,2-DICHLOROBENZENE | | | |
| 1,3-DICHLOROBENZENE | | | |
| 1,4-DICHLOROBENZENE | | | |
| 1,1-DICHLOROETHANE | | | |
| 1,2-DICHLOROETHANE | | | |
| 1,1-DICHLOROETHYLENE | | ND | |
| TRANS-1,2-DICHLOROETHYLENE | | 35 | |
| TRANS-1,3-DICHLOROPROPENE | | ND | |
| 1,2-DICHLOROPROPANE | | | |
| ETHYLBENZENE | | | |
| METHYLENE CHLORIDE | | | |
| 1,1,2,2-TETRACHLOROETHANE | | | |
| TETRACHLOROETHYLENE | | | |
| TOLUENE | | | |
| 1,1,1-TRICHLOROETHANE | | | |
| 1,1,2-TRICHLOROETHANE | | | ND |
| TRICHLOROETHYLENE | | | 9.3(4) |
| TRICHLOROFLUOROMETHANE | | | ND |
| VINYL CHLORIDE | | | |
| m-XYLENE | | | |
| p,o-XYLENE | ND | ND | ND |
| Total Targetted | | | |
| Volatiles: | 4.6 | 35 | 9.3 |
| Total Non-Targetted | | | |
| Volatiles: | ND | ND | ND |
| Total Targetted & Non- | | | |
| Targetted Volatiles: | 4.6 | 35 | 9.3(4) |

ATTACHMENT I-30

**ACCUTEST®**

2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

Dan Raviv Associates, Inc.86C367
SEP 23 1988**RECEIVED**TO: DAN RAVIV ASSOCIATES INC.
57 EAST WILLOW STREET
MILLBURN, NJ 07041

ATTN:

DATE: 09/20/88

JOB No: 883420

PROJECT No: 86C367

SAMPLE RECEIVED: 07/30/88

SAMPLE SUMMARY

| SAMPLE No | COLLECTED | | BY | POINT OF COLLECTION |
|-----------|-----------|-------|-----|---|
| | DATE | TIME | | |
| E810417 | 07/29/88 | 09:10 | BHM | WATER - SFTB 7/29/88 SELECTO-FLASH, WEST ORANGE |
| E810418 | 07/29/88 | 09:15 | BHM | WATER - SFRB 7/29/88 SELECTO-FLASH, WEST ORANGE |
| E810419 | 07/29/88 | 09:25 | BHM | SOIL - SPMW4A (1.5-2) SELECTO-FLASH, WEST ORANGE |
| E810420 | 07/29/88 | 09:35 | BHM | SOIL - SPMW4B (1.5-2) SELECTO-FLASH, WEST ORANGE |
| E810421 | 07/29/88 | 09:45 | BHM | SOIL - SPMW4 (2.5-3) SELECTO-FLASH, WEST ORANGE |
| E810422 | 07/29/88 | 10:20 | BHM | SOIL - SPMW4 (7.5-8) SELECTO-FLASH, WEST ORANGE |

NJ DEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT I-21

**ACCUTEST®**

2235 ROUTE 130 BLDG B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

| SAMPLE No | COLLECTED | | | POINT OF COLLECTION |
|-----------|-----------|-------|-----|---|
| | DATE | TIME | BY | |
| E810134 | 07/26/88 | 11:15 | BHM | SOIL - SFMW3(5.5-6) SELECTO-FLASH, WEST ORANGE |

| TEST DESCRIPTION | RESULT | MDL | UNITS | DATE | INITS |
|------------------------|--------|-----|-------|----------|-------|
| PETROLEUM HYDROCARBONS | 3400 | 50 | MG/KG | 08/11/88 | LP |
| SOLIDS, TOTAL PERCENT | 84 | 2.0 | % | 07/28/88 | GRM |

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT

1-32 14

**ACCUTEST®**

2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : DAN RAVIV
LAB SAMPLE #: E810134
MATRIX : SOIL

METHOD : SW846 8240
ANALYSIS DATE: 08/04/88
DATA FILE : >B6844

| COMPOUND | RESULT (ug/kg) | MDL (ug/kg) | Q |
|--------------------------------|-------------------|----------------|---|
| 1) ACROLEIN | ND | 110000 | |
| 2) ACRYLONITRILE | ND | 110000 | |
| 3) BENZENE | ND | 5600 | |
| 4) BROMOFORM | ND | 5600 | |
| 5) BROMODICHLOROMETHANE | ND | 5600 | |
| 6) BROMOMETHANE | ND | 11000 | |
| 7) CARBON TETRACHLORIDE | ND | 5600 | |
| 8) CHLOROBENZENE | ND | 5600 | |
| 9) CHLOROETHANE | ND | 11000 | |
| 10) 2-CHLOROETHYL VINYL ETHER | ND | 11000 | |
| 11) CHLOROFORM | ND | 5600 | |
| 12) CHLOROMETHANE | ND | 11000 | |
| 13) cis-1,3-DICHLOROPROPENE | ND | 5600 | |
| 14) DIBROMOCHLOROMETHANE | ND | 5600 | |
| 15) 1,2-DICHLOROBENZENE | ND | 5600 | |
| 16) 1,3-DICHLOROBENZENE | ND | 5600 | |
| 17) 1,4-DICHLOROBENZENE | ND | 5600 | |
| 18) 1,1-DICHLOROETHANE | ND | 5600 | |
| 19) 1,2-DICHLOROETHANE | ND | 5600 | |
| 20) 1,1-DICHLOROETHYLENE | ND | 5600 | |
| 21) trans-1,2-DICHLOROETHYLENE | 14000 | 5600 | |
| 22) trans-1,3-DICHLOROPROPENE | ND | 5600 | |
| 23) 1,2-DICHLOROPROPANE | ND | 5600 | |
| 24) ETHYLBENZENE | 29000 | 5600 | |
| 25) METHYLENE CHLORIDE | 6000 | 5600 | B |
| 26) 1,1,2,2-TETRACHLOROETHANE | ND | 5600 | |
| 27) TETRACHLOROETHYLENE | 5400 | 5600 | J |
| 28) TOLUENE | 420000 | 5600 | |
| 29) 1,1,1-TRICHLOROETHANE | ND | 5600 | |
| 30) 1,1,2-TRICHLOROETHANE | ND | 5600 | |
| 31) TRICHLOROETHYLENE | 5500 | 5600 | J |
| 32) TRICHLOROFLUOROMETHANE | ND | 5600 | |
| 33) VINYL CHLORIDE | ND | 11000 | |
| 34) m-XYLENE | 97000 | 5600 | |
| 35) p,o-XYLENE | 59000 | 5600 | |

ND = NOT DETECTED

MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL

B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT I-312

**ACCUTEST®**

2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

| SAMPLE No | COLLECTED | | | POINT OF COLLECTION |
|-----------|-----------|-------|-----|---|
| | DATE | TIME | BY | |
| E810132 | 07/26/88 | 10:30 | BHM | SOIL - SFMW3(1.5-2) SELECTO-FLASH, WEST ORANGE |

| TEST DESCRIPTION | RESULT | MDL | UNITS | DATE | INITS |
|------------------------|--------|-----|-------|----------|-------|
| PETROLEUM HYDROCARBONS | 12000 | 50 | MG/KG | 08/11/88 | LP |
| SOLIDS, TOTAL PERCENT | 83 | 2.0 | % | 07/28/88 | GRM |

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT I-21

**ACCUTEST®**

2235 ROUTE 130, BLDG. 8 • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : DAN RAVIV
LAB SAMPLE #: E810132
MATRIX : SOIL

METHOD : SW846 8240
ANALYSIS DATE: 08/05/88
DATA FILE : >B6871

| | COMPOUND | RESULT (ug/kg) | MDL (ug/kg) | Q |
|-----|----------------------------|-------------------|----------------|-----|
| | ----- | ----- | ----- | --- |
| 1) | ACROLEIN | ND | 41000 | |
| 2) | ACRYLONITRILE | ND | 41000 | |
| 3) | BENZENE | ND | 2100 | |
| 4) | BROMOFORM | ND | 2100 | |
| 5) | BROMODICHLOROMETHANE | ND | 2100 | |
| 6) | BROMOMETHANE | ND | 4100 | |
| 7) | CARBON TETRACHLORIDE | ND | 2100 | |
| 8) | CHLOROBENZENE | ND | 2100 | |
| 9) | CHLOROETHANE | ND | 4100 | |
| 10) | 2-CHLOROETHYL VINYL ETHER | ND | 4100 | |
| 11) | CHLOROFORM | ND | 2100 | |
| 12) | CHLOROMETHANE | ND | 4100 | |
| 13) | cis-1,3-DICHLOROPROPENE | ND | 2100 | |
| 14) | DIBROMOCHLOROMETHANE | ND | 2100 | |
| 15) | 1,2-DICHLOROBENZENE | ND | 2100 | |
| 16) | 1,3-DICHLOROBENZENE | ND | 2100 | |
| 17) | 1,4-DICHLOROBENZENE | ND | 2100 | |
| 18) | 1,1-DICHLOROETHANE | ND | 2100 | |
| 19) | 1,2-DICHLOROETHANE | ND | 2100 | |
| 20) | 1,1-DICHLOROETHYLENE | ND | 2100 | |
| 21) | trans-1,2-DICHLOROETHYLENE | ND | 2100 | |
| 22) | trans-1,3-DICHLOROPROPENE | ND | 2100 | |
| 23) | 1,2-DICHLOROPROPANE | ND | 2100 | |
| 24) | ETHYLBENZENE | ND | 2100 | |
| 25) | METHYLENE CHLORIDE | 1500 | 2100 | JB |
| 26) | 1,1,2,2-TETRACHLOROETHANE | ND | 2100 | |
| 27) | TETRACHLOROETHYLENE | ND | 2100 | |
| 28) | TOLUENE | 410 | 2100 | J |
| 29) | 1,1,1-TRICHLOROETHANE | ND | 2100 | |
| 30) | 1,1,2-TRICHLOROETHANE | ND | 2100 | |
| 31) | TRICHLOROETHYLENE | ND | 2100 | |
| 32) | TRICHLOROFLUOROMETHANE | ND | 2100 | |
| 33) | VINYL CHLORIDE | ND | 4100 | |
| 34) | m-XYLENE | ND | 2100 | |
| 35) | p,o-XYLENE | ND | 2100 | |

ND = NOT DETECTED

MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL

B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT 26

**ACCUTEST®**

2235 ROUTE 130, BLDG B • DAYTON, N J 08810 • (201) 329-0200

ANALYSIS REPORT

| SAMPLE No | COLLECTED | | | POINT OF COLLECTION |
|-----------|-----------|-------|-----|---|
| | DATE | TIME | BY | |
| E810133 | 07/26/88 | 10:50 | BHM | SOIL - SFMW3(2.5-3) SELECTO-FLASH, WEST ORANGE |

| TEST DESCRIPTION | RESULT | MDL | UNITS | DATE | INITS |
|------------------------|--------|-----|-------|----------|-------|
| PETROLEUM HYDROCARBONS | 26000 | 50 | MG/KG | 08/11/88 | LP |
| SOLIDS, TOTAL PERCENT | 78 | 2.0 | % | 07/28/88 | GRM |

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS
NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT 

11

**ACCUTEST®**

2235 ROUTE 130. BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : DAN RAVIV
LAB SAMPLE #: E810133
MATRIX : SOIL

METHOD : SW846 8240
ANALYSIS DATE: 08/03/88
DATA FILE : >B6828

| COMPOUND | RESULT (ug/kg) | MDL (ug/kg) | Q |
|--------------------------------|-------------------|----------------|---|
| 1) ACROLEIN | ND | 6200 | |
| 2) ACRYLONITRILE | ND | 6200 | |
| 3) BENZENE | ND | 310 | |
| 4) BROMOFORM | ND | 310 | |
| 5) BROMODICHLOROMETHANE | ND | 310 | |
| 6) BROMOMETHANE | ND | 620 | |
| 7) CARBON TETRACHLORIDE | ND | 310 | |
| 8) CHLOROBENZENE | ND | 310 | |
| 9) CHLOROETHANE | ND | 620 | |
| 10) 2-CHLOROETHYL VINYL ETHER | ND | 620 | |
| 11) CHLOROFORM | ND | 310 | |
| 12) CHLOROMETHANE | ND | 620 | |
| 13) cis-1,3-DICHLOROPROPENE | ND | 310 | |
| 14) DIBROMOCHLOROMETHANE | ND | 310 | |
| 15) 1,2-DICHLOROBENZENE | ND | 310 | |
| 16) 1,3-DICHLOROBENZENE | ND | 310 | |
| 17) 1,4-DICHLOROBENZENE | ND | 310 | |
| 18) 1,1-DICHLOROETHANE | ND | 310 | |
| 19) 1,2-DICHLOROETHANE | ND | 310 | |
| 20) 1,1-DICHLOROETHYLENE | ND | 310 | |
| 21) trans-1,2-DICHLOROETHYLENE | 1100 | 310 | |
| 22) trans-1,3-DICHLOROPROPENE | ND | 310 | |
| 23) 1,2-DICHLOROPROPANE | ND | 310 | |
| 24) ETHYLBENZENE | 220 | 310 | |
| 25) METHYLENE CHLORIDE | 160 | 310 | J |
| 26) 1,1,2,2-TETRACHLOROETHANE | ND | 310 | |
| 27) TETRACHLOROETHYLENE | 1000 | 310 | |
| 28) TOLUENE | 4600 | 310 | |
| 29) 1,1,1-TRICHLOROETHANE | ND | 310 | |
| 30) 1,1,2-TRICHLOROETHANE | ND | 310 | |
| 31) TRICHLOROETHYLENE | 540 | 310 | |
| 32) TRICHLOROFLUOROMETHANE | ND | 310 | |
| 33) VINYL CHLORIDE | ND | 620 | |
| 34) m-XYLENE | 570 | 310 | |
| 35) p,o-XYLENE | 950 | 310 | |

ND = NOT DETECTED

MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL

B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

**ACCUTEST®**

2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : RAVIV
 LAB SAMPLE #: E811453
 MATRIX : WATER

METHOD : EPA 624
 ANALYSIS DATE: 08/23/88
 DATA FILE : >A9368

| | COMPOUND | RESULT (ug/L) | MDL (ug/L) | Q |
|-----|----------------------------|------------------|---------------|-----|
| | ----- | ----- | ----- | --- |
| 1) | ACROLEIN | ND | 100 | |
| 2) | ACRYLONITRILE | ND | 100 | |
| 3) | BENZENE | 1.2 | 5.0 | J |
| 4) | BROMOFORM | ND | 5.0 | |
| 5) | BROMODICHLOROMETHANE | ND | 5.0 | |
| 6) | BROMOMETHANE | ND | 10 | |
| 7) | CARBON TETRACHLORIDE | ND | 5.0 | |
| 8) | CHLOROBENZENE | ND | 5.0 | |
| 9) | CHLOROETHANE | ND | 10 | |
| 10) | 2-CHLOROETHYL VINYL ETHER | ND | 10 | |
| 11) | CHLOROFORM | ND | 5.0 | |
| 12) | CHLOROMETHANE | ND | 10 | |
| 13) | cis-1,3-DICHLOROPROPENE | ND | 5.0 | |
| 14) | DIBROMOCHLOROMETHANE | ND | 5.0 | |
| 15) | 1,2-DICHLOROBENZENE | ND | 5.0 | |
| 16) | 1,3-DICHLOROBENZENE | ND | 5.0 | |
| 17) | 1,4-DICHLOROBENZENE | ND | 5.0 | |
| 18) | 1,1-DICHLOROETHANE | ND | 5.0 | |
| 19) | 1,2-DICHLOROETHANE | ND | 5.0 | |
| 20) | 1,1-DICHLOROETHYLENE | ND | 5.0 | |
| 21) | trans-1,2-DICHLOROETHYLENE | 100 | 5.0 | |
| 22) | trans-1,3-DICHLOROPROPENE | ND | 5.0 | |
| 23) | 1,2-DICHLOROPROPANE | ND | 5.0 | |
| 24) | ETHYLBENZENE | ND | 5.0 | |
| 25) | METHYLENE CHLORIDE | ND | 5.0 | |
| 26) | 1,1,2,2-TETRACHLOROETHANE | ND | 5.0 | |
| 27) | TETRACHLOROETHYLENE | 4.3 | 5.0 | J |
| 28) | TOLUENE | ND | 5.0 | |
| 29) | 1,1,1-TRICHLOROETHANE | ND | 5.0 | |
| 30) | 1,1,2-TRICHLOROETHANE | ND | 5.0 | |
| 31) | TRICHLOROETHYLENE | 5.3 | 5.0 | |
| 32) | TRICHLOROFLUOROMETHANE | ND | 5.0 | |
| 33) | VINYL CHLORIDE | 36 | 10 | |
| 34) | m-XYLENE | ND | 5.0 | |
| 35) | p,o-XYLENE | ND | 5.0 | |

ND = NOT DETECTED
 MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL
 B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

**ACCUTEST®**

2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

| SAMPLE No | COLLECTED | | | POINT OF COLLECTION |
|-----------|-----------|-------|-----|---|
| | DATE | TIME | BY | |
| E811452 | 08/16/88 | 14:45 | JAS | WATER - SF-MW1 SELECTO-FLASH, WEST ORANGE |

| TEST DESCRIPTION | RESULT | MDL | UNITS | DATE | INITS |
|------------------------|--------|-----|-------|----------|-------|
| PETROLEUM HYDROCARBONS | 4.5 | 1.0 | MG/L | 08/19/88 | KS |

UG/L = PPB MG/L = PPM

MDL = METHOD DETECTION LIMIT

NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENTATTACHMENT 7-38 12

**ACCUTEST®**

2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

| SAMPLE No | COLLECTED | | | POINT OF COLLECTION |
|-----------|-----------|-------|-----|--|
| | DATE | TIME | BY | |
| E810421 | 07/29/88 | 09:45 | BHM | SOIL - SPMW4 (2.5-3) SELECTO-FLASH, WEST ORANGE |

| TEST DESCRIPTION | RESULT | MDL | UNITS | DATE | INITS |
|------------------------|--------|-----|-------|----------|-------|
| PETROLEUM HYDROCARBONS | 21000 | 50 | MG/KG | 08/16/88 | MBM |
| SOLIDS, TOTAL PERCENT | 85 | 2.0 | % | 08/03/88 | GRM |

UG/KG = PPB MG/KG = PPM
MDL = METHOD DETECTION LIMIT
ALL RESULTS REPORTED ON A DRY WEIGHT BASIS

NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT I-37 14

**ACCUTEST®**

2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : RAVIV
LAB SAMPLE #: E811452
MATRIX : WATERMETHOD : EPA 624
ANALYSIS DATE: 08/23/88
DATA FILE : >A9367

| | COMPOUND | RESULT (ug/L) | MDL (ug/L) | Q |
|-----|----------------------------|------------------|---------------|---|
| 1) | ACROLEIN | ND | 100 | |
| 2) | ACRYLONITRILE | ND | 100 | |
| 3) | BENZENE | ND | 5.0 | |
| 4) | BROMOFORM | ND | 5.0 | |
| 5) | BROMODICHLOROMETHANE | ND | 5.0 | |
| 6) | BROMOMETHANE | ND | 10 | |
| 7) | CARBON TETRACHLORIDE | ND | 5.0 | |
| 8) | CHLOROBENZENE | ND | 5.0 | |
| 9) | CHLOROETHANE | ND | 10 | |
| 10) | 2-CHLOROETHYL VINYL ETHER | ND | 10 | |
| 11) | CHLOROFORM | ND | 5.0 | |
| 12) | CHLOROMETHANE | ND | 10 | |
| 13) | cis-1,3-DICHLOROPROPENE | ND | 5.0 | |
| 14) | DIBROMOCHLOROMETHANE | ND | 5.0 | |
| 15) | 1,2-DICHLOROBENZENE | ND | 5.0 | |
| 16) | 1,3-DICHLOROBENZENE | ND | 5.0 | |
| 17) | 1,4-DICHLOROBENZENE | ND | 5.0 | |
| 18) | 1,1-DICHLOROETHANE | ND | 5.0 | |
| 19) | 1,2-DICHLOROETHANE | ND | 5.0 | |
| 20) | 1,1-DICHLOROETHYLENE | ND | 5.0 | |
| 21) | trans-1,2-DICHLOROETHYLENE | 95 | 5.0 | |
| 22) | trans-1,3-DICHLOROPROPENE | ND | 5.0 | |
| 23) | 1,2-DICHLOROPROPANE | ND | 5.0 | |
| 24) | ETHYLBENZENE | ND | 5.0 | |
| 25) | METHYLENE CHLORIDE | ND | 5.0 | |
| 26) | 1,1,2,2-TETRACHLOROETHANE | ND | 5.0 | |
| 27) | TETRACHLOROETHYLENE | 16 | 5.0 | |
| 28) | TOLUENE | 5.5 | 5.0 | B |
| 29) | 1,1,1-TRICHLOROETHANE | ND | 5.0 | |
| 30) | 1,1,2-TRICHLOROETHANE | ND | 5.0 | |
| 31) | TRICHLOROETHYLENE | 8.4 | 5.0 | |
| 32) | TRICHLOROFLUOROMETHANE | ND | 5.0 | |
| 33) | VINYL CHLORIDE | 30 | 10 | |
| 34) | m-XYLENE | ND | 5.0 | |
| 35) | p,o-XYLENE | ND | 5.0 | |

ND = NOT DETECTED

MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL

B =INDICATES COMPOUND FOUND IN-THE ASSOCIATED-BLANK-AS WELL AS IN SAMPLE

**ACCUTEST**

2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

| SAMPLE No | COLLECTED | | | POINT OF COLLECTION |
|-----------|-----------|-------|-----|--|
| | DATE | TIME | BY | |
| E811453 | 08/16/88 | 14:50 | JAS | WATER - SF-MW2A SELECTO-FLASH, WEST ORANGE |

| TEST DESCRIPTION | RESULT | MDL | UNITS | DATE | INITS |
|------------------------|--------|-----|-------|----------|-------|
| PETROLEUM HYDROCARBONS | <1.0 | 1.0 | MG/L | 08/19/88 | KS |

UG/L = PPB MG/L = PPM

MDL = METHOD DETECTION LIMIT

NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT

T-411

**ACCUTEST**

2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

| SAMPLE No | COLLECTED | | | POINT OF COLLECTION |
|-----------|-----------|-------|-----|--|
| | DATE | TIME | BY | |
| E811454 | 08/16/88 | 14:50 | JAS | WATER - SF-MW2B SELECTO-FLASH, WEST ORANGE |

| TEST DESCRIPTION | RESULT | MDL | UNITS | DATE | INITS |
|------------------------|--------|-----|-------|----------|-------|
| PETROLEUM HYDROCARBONS | <1.0 | 1.0 | MG/L | 08/19/88 | KS |

UG/L = PPB MG/L = PPM

MDL = METHOD DETECTION LIMIT

NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT

1-42

18

**ACCUTEST®**

2235 ROUTE 130, BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : RAVIV
LAB SAMPLE #: E811454
MATRIX : WATERMETHOD : EPA 624
ANALYSIS DATE: 08/24/88
DATA FILE : >A9384

| COMPOUND | RESULT (ug/L) | MDL (ug/L) | Q |
|--------------------------------|------------------|---------------|---|
| 1) ACROLEIN | ND | 100 | |
| 2) ACRYLONITRILE | ND | 100 | |
| 3) BENZENE | 1.1 | 5.0 | J |
| 4) BROMOFORM | ND | 5.0 | |
| 5) BROMODICHLOROMETHANE | ND | 5.0 | |
| 6) BROMOMETHANE | ND | 10 | |
| 7) CARBON TETRACHLORIDE | ND | 5.0 | |
| 8) CHLOROBENZENE | ND | 5.0 | |
| 9) CHLOROETHANE | ND | 10 | |
| 10) 2-CHLOROETHYL VINYL ETHER | ND | 10 | |
| 11) CHLOROFORM | ND | 5.0 | |
| 12) CHLOROMETHANE | ND | 10 | |
| 13) cis-1,3-DICHLOROPROPENE | ND | 5.0 | |
| 14) DIBROMOCHLOROMETHANE | ND | 5.0 | |
| 15) 1,2-DICHLOROBENZENE | ND | 5.0 | |
| 16) 1,3-DICHLOROBENZENE | ND | 5.0 | |
| 17) 1,4-DICHLOROBENZENE | ND | 5.0 | |
| 18) 1,1-DICHLOROETHANE | ND | 5.0 | |
| 19) 1,2-DICHLOROETHANE | ND | 5.0 | |
| 20) 1,1-DICHLOROETHYLENE | ND | 5.0 | |
| 21) trans-1,2-DICHLOROETHYLENE | 100 | 5.0 | |
| 22) trans-1,3-DICHLOROPROPENE | ND | 5.0 | |
| 23) 1,2-DICHLOROPROPANE | ND | 5.0 | |
| 24) ETHYLBENZENE | ND | 5.0 | |
| 25) METHYLENE CHLORIDE | ND | 5.0 | |
| 26) 1,1,2,2-TETRACHLOROETHANE | ND | 5.0 | |
| 27) TETRACHLOROETHYLENE | ND | 5.0 | |
| 28) TOLUENE | ND | 5.0 | |
| 29) 1,1,1-TRICHLOROETHANE | ND | 5.0 | |
| 30) 1,1,2-TRICHLOROETHANE | ND | 5.0 | |
| 31) TRICHLOROETHYLENE | 4.8 | 5.0 | J |
| 32) TRICHLOROFLUOROMETHANE | ND | 5.0 | |
| 33) VINYL CHLORIDE | 41 | 10 | |
| 34) m-XYLENE | ND | 5.0 | |
| 35) p,o-XYLENE | ND | 5.0 | |

ND = NOT DETECTED

MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL

B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

**ACCUTEST®**

2235 ROUTE 130, BLDG B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

| SAMPLE No | COLLECTED | | | POINT OF COLLECTION |
|-----------|-----------|-------|-----|---|
| | DATE | TIME | BY | |
| E811455 | 08/16/88 | 15:20 | JAS | WATER - SF-MW3 SELECTO-FLASH, WEST ORANGE |

| TEST DESCRIPTION | RESULT | MDL | UNITS | DATE | INITS |
|------------------------|--------|-----|-------|----------|-------|
| PETROLEUM HYDROCARBONS | <1.0 | 1.0 | MG/L | 08/19/88 | KS |

UG/L • PPB NG/L • PPM
MDL • METHOD DETECTION LIMIT
NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENT

ATTACHMENT

21

**ACCUTEST®**

2235 ROUTE 130, BLDG. 8 • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : RAVIV
LAB SAMPLE #: E811455
MATRIX : WATER

METHOD : EPA 624
ANALYSIS DATE: 08/24/88
DATA FILE : >A9387
>A9431

| | COMPOUND | RESULT (ug/L) | MDL (ug/L) | Q |
|-----|----------------------------|------------------|---------------|---|
| 1) | ACROLEIN | ND | 100 | |
| 2) | ACRYLONITRILE | ND | 100 | |
| 3) | BENZENE | ND | 5.0 | |
| 4) | BROMOFORM | ND | 5.0 | |
| 5) | BROMODICHLOROMETHANE | ND | 5.0 | |
| 6) | BROMOMETHANE | ND | 10 | |
| 7) | CARBON TETRACHLORIDE | ND | 5.0 | |
| 8) | CHLOROBENZENE | 77 | 5.0 | |
| 9) | CHLOROETHANE | ND | 10 | |
| 10) | 2-CHLOROETHYL VINYL ETHER | ND | 10 | |
| 11) | CHLOROFORM | 6.7 | 5.0 | |
| 12) | CHLOROMETHANE | ND | 10 | |
| 13) | cis-1,3-DICHLOROPROPENE | ND | 5.0 | |
| 14) | DIBROMOCHLOROMETHANE | ND | 5.0 | |
| 15) | 1,2-DICHLOROBENZENE | 3.8 | 5.0 | J |
| 16) | 1,3-DICHLOROBENZENE | ND | 5.0 | |
| 17) | 1,4-DICHLOROBENZENE | 3.8 | 5.0 | J |
| 18) | 1,1-DICHLOROETHANE | ND | 5.0 | |
| 19) | 1,2-DICHLOROETHANE | ND | 5.0 | |
| 20) | 1,1-DICHLOROETHYLENE | ND | 5.0 | |
| 21) | trans-1,2-DICHLOROETHYLENE | 290 | 10 | |
| 22) | trans-1,3-DICHLOROPROPENE | ND | 5.0 | |
| 23) | 1,2-DICHLOROPROPANE | ND | 5.0 | |
| 24) | ETHYLBENZENE | 4.0 | 5.0 | J |
| 25) | METHYLENE CHLORIDE | ND | 5.0 | |
| 26) | 1,1,2,2-TETRACHLOROETHANE | ND | 5.0 | |
| 27) | TETRACHLOROETHYLENE | 70 | 5.0 | |
| 28) | TOLUENE | 83 | 5.0 | |
| 29) | 1,1,1-TRICHLOROETHANE | ND | 5.0 | |
| 30) | 1,1,2-TRICHLOROETHANE | ND | 5.0 | |
| 31) | TRICHLOROETHYLENE | 78 | 5.0 | |
| 32) | TRICHLOROFLUOROMETHANE | ND | 5.0 | |
| 33) | VINYL CHLORIDE | 75 | 10 | |
| 34) | m-XYLENE | 13 | 5.0 | |
| 35) | p,o-XYLENE | 9.5 | 5.0 | |

ND = NOT DETECTED

MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL

B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT

I-46

**ACCUTEST**

2235 ROUTE 130. BLDG. B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT

| SAMPLE No | COLLECTED | | | POINT OF COLLECTION |
|-----------|-----------|-------|-----|---|
| | DATE | TIME | BY | |
| E811451 | 08/16/88 | 11:15 | JAS | WATER - SF-MW4 SELECTO-FLASH, WEST ORANGE |

| TEST DESCRIPTION | RESULT | MDL | UNITS | DATE | INITS |
|------------------------|--------|-----|-------|----------|-------|
| PETROLEUM HYDROCARBONS | 1.5 | 1.0 | MG/L | 08/19/88 | KS |

UG/L = PPB MG/L = PPM

MDL = METHOD DETECTION LIMIT

NJDEP CERTIFICATION 12129

VINCENT J. PUGLIESE
VICE-PRESIDENTATTACHMENT I-47 9

**ACCUTEST®**

2235 ROUTE 130, BLDG B • DAYTON, N.J. 08810 • (201) 329-0200

ANALYSIS REPORT FOR VOLATILE ORGANICS BY GC/MS

CLIENT : RAVIV
LAB SAMPLE #: E811451
MATRIX : WATER

METHOD : EPA 624
ANALYSIS DATE: 08/30/88
DATA FILE : >E1542
>E1555

| | COMPOUND | RESULT (ug/L) | MDL (ug/L) | Q |
|-----|----------------------------|------------------|---------------|---|
| 1) | ACROLEIN | ND | 1000 | |
| 2) | ACRYLONITRILE | ND | 1000 | |
| 3) | BENZENE | 300 | 50 | |
| 4) | BROMOFORM | ND | 50 | |
| 5) | BROMODICHLOROMETHANE | ND | 50 | |
| 6) | BROMOMETHANE | ND | 100 | |
| 7) | CARBON TETRACHLORIDE | ND | 50 | |
| 8) | CHLOROBENZENE | ND | 50 | |
| 9) | CHLOROETHANE | ND | 100 | |
| 10) | 2-CHLOROETHYL VINYL ETHER | ND | 100 | |
| 11) | CHLOROFORM | ND | 50 | |
| 12) | CHLOROMETHANE | ND | 100 | |
| 13) | cis-1,3-DICHLOROPROPENE | ND | 50 | |
| 14) | DIBROMOCHLOROMETHANE | ND | 50 | |
| 15) | 1,2-DICHLOROBENZENE | ND | 50 | |
| 16) | 1,3-DICHLOROBENZENE | ND | 50 | |
| 17) | 1,4-DICHLOROBENZENE | ND | 50 | |
| 18) | 1,1-DICHLOROETHANE | 370 | 50 | |
| 19) | 1,2-DICHLOROETHANE | ND | 50 | |
| 20) | 1,1-DICHLOROETHYLENE | ND | 50 | |
| 21) | trans-1,2-DICHLOROETHYLENE | ND | 50 | |
| 22) | trans-1,3-DICHLOROPROPENE | ND | 50 | |
| 23) | 1,2-DICHLOROPROPANE | ND | 50 | |
| 24) | ETHYLBENZENE | ND | 50 | |
| 25) | METHYLENE CHLORIDE | ND | 50 | |
| 26) | 1,1,2,2-TETRACHLOROETHANE | ND | 50 | |
| 27) | TETRACHLOROETHYLENE | 20000 | 500 | |
| 28) | TOLUENE | ND | 50 | |
| 29) | 1,1,1-TRICHLOROETHANE | ND | 50 | |
| 30) | 1,1,2-TRICHLOROETHANE | ND | 50 | |
| 31) | TRICHLOROETHYLENE | 650 | 50 | |
| 32) | TRICHLOROFLUOROMETHANE | ND | 50 | |
| 33) | VINYL CHLORIDE | ND | 100 | |
| 34) | m-XYLENE | ND | 50 | |
| 35) | p,o-XYLENE | ND | 50 | |

ND = NOT DETECTED

MDL= METHOD DETECTION LIMIT

QUALIFIERS (Q)

J =INDICATES AN ESTIMATED VALUE BELOW MDL

B =INDICATES COMPOUND FOUND IN THE ASSOCIATED BLANK AS WELL AS IN SAMPLE

ATTACHMENT I-48 7